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The Economist

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Politics this week

Jun 9th 2005
From The Economist print edition

Bolivia in turmoil

AFP

Bolivia descended into chaos. After tens of thousands of protesters demanding the nationalisation of oil and gas blockaded the capital, La Paz, for several days, Carlos Mesa, the president, resigned for the third time in as many months. The president of the Senate appeared set to take over but most Bolivians want an early election.

See article

Brazil's president, Luiz Inácio Lula da Silva, backed a congressional probe into official corruption after Roberto Jefferson, a government ally, accused the president's Workers' Party (PT) of paying some lawmakers $12,000 a month to vote for government bills. The PT denies this; Mr Jefferson is himself accused of involvement in a bribery network.

See article

An appeals court in **Chile** decided that General Augusto Pinochet should face charges of tax evasion over $17m held in foreign bank accounts. But another appeals court ruled that the former dictator's poor health meant that he could not be tried on human-rights charges.

In **Canada**, a battle began to lead Quebec separatism after the surprise resignation of Bernard Landry, a former premier of the province, as leader of the Parti Québécois (PQ). Gilles Duceppe, the leader of the Bloc Québécois, the PQ's federal sister, was tipped to switch from Ottawa to Quebec City.

See article

Seeking sanctuary

Two **Chinese** diplomats attempted to defect to Australia, alleging that China is running an extensive network of spies there. China dismissed the claims as fabrications. Australia did not immediately grant the men's request for asylum.

A set of constitutional reforms was approved in **Taiwan**. They mean that any future changes to the constitution will have to be first accepted by the parliament and then endorsed by 50% of the entire electorate in a referendum. The high threshold should reassure China, which has been sabre-rattling of late, that Taiwan will not move towards independence.

A crowded bus in **Nepal** was blown up by a landmine planted by suspected Maoist rebels. At least 37 people were killed and many more wounded.

India and **Pakistan** agreed to accelerate work on a planned pipeline that will bring gas from Iran to South Asia. The two countries also agreed to explore the possibility of constructing pipelines to import gas from Turkmenistan, Uzbekistan, Kazakhstan and Russia.

Stalling for time?

The **Palestinians'** leader, Mahmoud Abbas, said his territory's general election, due on July 17th, would be postponed, along with elections within his own Fatah party. The Islamist group, Hamas, which was expected to do well, condemned the delay.

See article

In the second round of **Lebanon's** four-stage general election, Hizbullah, the Shias' militia-cum-political-party, dominated the south. A more anti-Syrian parliament will probably still emerge after the last round at the end of June.

See article

At the first congress of **Syria's** ruling Baath party in five years, President Bashar Assad appeared to resist pressure for real reform, though his long-standing vice-president bowed out.

See article

The UN's International Criminal Court opened formal investigations into the bloody mayhem in **Sudan's** western province, Darfur, following the UN Security Council's referral of 51 names of suspects involved in crimes against humanity and other atrocities there. But Sudan's government is refusing to co-operate with the court.

At least 22 people were killed in **Ethiopia's** capital, Addis Ababa, after security forces fired on a crowd protesting against alleged fraud in the country's recent general election. The government blamed the opposition Coalition for Unity and Democracy for inciting the protests.

Reuters

Amid sporadic violence, **Burundians** went to the polls (just local ones) for the first time in 12 years. The Hutu majority seemed likely to win.

See article

After meeting Britain's prime minister, Tony Blair, in Washington, President George Bush agreed that **aid to Africa** from rich countries should increase; the United States, he said, would give a further $674m towards famine relief, mostly in Ethiopia and Eritrea.

See article

Meditating drug medication

In a victory for the Justice Department, the Supreme Court ruled that **medical-marijuana** laws, which have been passed in several states, did not protect users from prosecution by the federal government.

See article

A judge in **Washington state** upheld last November's narrow election victory for the Democratic governor, Christine Gregoire. Republicans had alleged fraud and errors in the voting rolls.

Doug Forrester, a millionaire businessman, won the Republican primary election for governor in **New Jersey**. He will now face the current front-runner, Jon Corzine, a Democratic senator, in November.

See article

After the fall

Britain suspended the parliamentary process for ratifying the **European Union constitution**. Several other EU countries insisted that ratification should continue despite the French and Dutch noes in their referendums, although many now hope that next week's EU summit will put the whole process on hold.

See article

Ahead of the summit, which is also supposed to settle the next six-yearly **EU budget**, most governments put pressure on Britain to give up part or all of its special rebate, won by Margaret Thatcher in 1984. Britain's Tony Blair insisted that the rebate would remain.

See article

The European Commission said that **Croatia** was still not co-operating sufficiently with the UN war-crimes tribunal in The Hague to allow EU membership talks to start. After yet another rebuff from Brussels, the Croatian government is struggling to preserve its control of parliament.

The new **French prime minister**, Dominique de Villepin, said that he would abandon France's previous plans for income-tax cuts so as to provide more money for job creation. Unemployment is over 10%.

See article

Belgium's prime minister, Guy Verhofstadt, apologised to his Dutch counterpart, Jan Peter Balkenende, after the Belgian foreign minister was quoted in an interview, given after the Dutch referendum on the EU constitution, likening the Dutchman to Harry Potter, but without the charisma.

AP

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Business this week

Jun 9th 2005
From The Economist print edition

Union-bash or bust?

The chief executive of **General Motors**, Rick Wagoner, announced plans to cut 25,000 jobs between 2005 and 2008 in an effort to reduce costs. Mr Wagoner also said the carmaker had been talking to unions about reducing the company's health-care costs. GM estimates it will spend $5.6 billion on employees' and retirees' health care this year.

See article

Washington Mutual (WaMu), one of America's biggest banks, agreed to buy **Providian**, a credit-card provider, for $6.5 billion. WaMu's mortgage business has been struggling of late; the deal gives the Seattle-based company an opportunity to sell its banking services to Providian's 10m customers.

See article

In summing up its prosecution at an eight-month federal trial, America's Justice Department said it was seeking $10 billion from **tobacco** companies it accuses of a 50-year conspiracy to make smokers addicted to cigarettes. The sum surprised many—a figure of $130 billion was widely expected.

Maurice “Hank” Greenberg, the former chairman and chief executive of **American International Group**, resigned from the insurance giant's board. Mr Greenberg, who with the company has been accused by New York prosecutors of manipulating results, complained that AIG had not provided him with information about its own investigation into its troubles.

Singapore's police arrested Chen Jiulin, the suspended chief executive of **China Aviation Oil**, which lost $550m on oil-derivative trades last year. CAO's finance director and three executives of its Chinese parent company were also arrested.

ProLogis, a large industrial-property group, said it would acquire **Catellus Development** in a deal worth $4.9 billion. ProLogis focuses on warehousing and distribution services; the merged company is expected to have over 2,250 facilities worldwide.

Apple and chips

Apple Computer revealed that it would use chips made by **Intel** in its personal computers; for the past decade the company has used IBM. The move is viewed as part of Apple's strategy to increase its global market share of PCS.

See article

LG Philips LCD, a maker of liquid-crystal displays, signed a $5 billion agreement with **Hewlett-Packard** to supply flat-panel screens for notebook computers. The deal is a fillip for the South Korean-based company in its contest with arch-rival Samsung.

Siemens sold its loss-making mobile-phone business to **BenQ**, a technology company based in Taiwan.

Barry Diller's **InterActiveCorp**, an internet conglomerate, said it would sell its 5.4% stake in Vivendi Universal Entertainment to NBC Universal for $3.4 billion, ending a long and complex legal dispute with Vivendi Universal.

Microsoft announced it would offer free upgrades to its mobile software, making it easier for e-mail messages to be sent directly to mobile phones. The move is a direct challenge to the dominance of the **BlackBerry**, made by Canadian firm Research in Motion, in the growing mobile e-mail market (estimated at 9m users by the end of 2006).

Going gaga for Google

Google overtook Time Warner to become the world's most valuable media company. The company made its IPO less than a year ago.

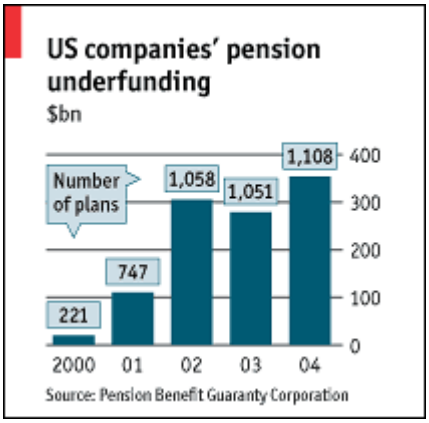
Pernod Ricard, a French spirits firm that is seeking to acquire British rival **Allied Domecq**, announced that it will sell its Bushmills whiskey business to **Diageo** for *euro*295m ($362m). The deal was made on condition that Diageo, the world's leading drinks company, does not join a rival bid for Allied from a consortium led by Constellation Brands, an American drinks firm.

The European Commission said that **footwear imports** from China had risen by 681% in the first four months of 2005 compared with the same period in 2004. It raised the spectre of import duties if China was found to be using “unfair” trading practices.

America added 78,000 people to the **employment** payrolls in May, the smallest increase since August 2003. Unemployment was down a fraction, however, to 5.1% —the lowest rate since September 2001.

Ready for baby-boomers?

America's Pension Benefit Guaranty Corporation said that companies with **underfunded defined-benefit pension plans** had filed shortfalls of $353.7 billion in 2004. (Entities that have more than $50m in underfunded liabilities are required to report to the PBGC—the estimate for the total shortfall of pension plans is $450 billion.) This week, United Airlines transferred $6.6 billion of liabilities to the government agency. The PBGC is deeply concerned about the liabilities of other airlines.



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Economist.com OPINION

eBay

Anniversary lessons from eBay

Jun 9th 2005
From The Economist print edition

A lot can be learnt from one of the most successful companies on the internet

Get article background

TEN years ago, Pierre Omidyar, a software engineer working in California's Silicon Valley, began thinking about how to use the internet for a trading system in which buyers and sellers could establish a genuine market price. Over a long holiday weekend he wrote the computer code. At first, a trickle of users arrived at his website—including his girlfriend, who traded PEZ candy dispensers. By the end of 1995, several thousand auctions had been completed and interest in eBay was growing. And it grew and grew (see article). From this modest beginning, eBay has become a global giant, with around 150m registered users worldwide who are set to buy and sell goods worth more than $40 billion this year.

The remarkable tale of eBay's growth points to some important lessons for any business trying to operate online—and today that includes, one way or another, most firms. The commercial opportunities presented by an expanding global web seem almost limitless. But the pace of change is rapid, and so is the ferocity of competition. To succeed, firms need agility, an open mind and the ability to reinvent themselves repeatedly. Most of all, they need to listen carefully to their customers, paying close attention to what they do and don't want.

Such qualities, of course, would be valuable in any kind of business. Yet for online firms they are not a luxury, but necessary for mere survival. This is true for a variety of reasons. The internet is not only growing, but changing rapidly—which, in turn, changes the rules of the game for any business relying on it. The barriers to entry are still low compared with those for most offline businesses, which means that just keeping track of your existing rivals is not enough. These may not represent the greatest competitive threat tomorrow or the next day. That could come from a number of directions—a firm in a different type of online business; one that does not yet exist; or even from one of your own customers. On top of all this, the behaviour of many consumers is constantly changing as well, as individuals discover new ways to shop and interact with each other via the web.

No safe havens

All these factors make the internet a dangerous place to do business, as well as one full of promise. eBay's history demonstrates both of those things. It is probably safe to say that nothing like eBay could have existed without the internet—or could have grown so fast. Even though there have been signs of the firm's blistering pace slowing a bit in America, its most “mature” market, there remain vast opportunities overseas, particularly, some argue, in China. Meg Whitman, eBay's chief executive, believes the company is still only at the beginning of what it could achieve.

And yet just getting as far as it has is quite an achievement. Like the other online giants, Google, Yahoo! and Amazon, eBay is the survivor of a brutal shake-out. A decade ago, the internet had less than 20m users. By 1999, when it had reached 150m users, dotcoms were being formed every day. But when the technology bubble burst in 2001, thousands of firms were swept away.

The survivors now operate in a market with close to one billion users worldwide and growing. But to flourish these firms have had to remake their businesses over and over again. eBay, for example, is no longer solely an auctioneer; Google has become more than a search engine. Yahoo! is adding yet more services to its web portal; Amazon sells a lot more than just books, and both firms now offer auctions. New features and new strategies are being embraced as these firms fight each other, and a horde of others, for the e-commerce pie.

Customers behind the wheel

Driving the strategy of all these firms is the shifting behaviour of consumers. eBay's business, in particular, has been moulded by its users. Second-hand cars now account for 30% of sales on its sites, something that managers never expected. They discovered that it was possible to sell cars on their site only when customers started listing them on the section for toy cars. eBay has since followed its customers into lots of other areas, including new clothes, cosmetics and high-priced medical and industrial machinery. Moreover, some 30% of its sales are now at fixed prices, rather than from auctions.

With their ability to aggregate vast audiences, could eBay and other e-commerce giants turn into semi-monopolies like Microsoft? In theory this seems possible. Network effects, for example, mean that the bigger eBay gets, the more addictive it becomes for both buyers and sellers. And much the same can be said about Google's emerging role as the online advertising agency of choice, with firms paying for search links to ensure their products can be “Googled”.

It is not impossible that some kind of monopoly might emerge, wielding true pricing power, but right now it looks unlikely. eBay's managers, for example, admit that customers are shaping its business more than they are, and seem acutely aware that groups of customers could easily depart together to set up their own specialist auction or sales sites if eBay charges too much for its services or lets them down. This month it paid $620m to buy Shopping.com, a shopping comparison site, to help its customers offer auctioned items to an even wider audience. The fact that the biggest web firms such as eBay, Yahoo!, Google and Amazon are so keen to invade each other's turf shows that none of them feels secure in their niche, or considers the others as well-protected from new competition.

The relatively low barriers to entry remain one of the most alluring features of the internet—and the greatest threat to any incumbent firm. Millions of people have already set up small web businesses, and millions more will do so, many of them using services provided by eBay, Amazon, Google and Yahoo!. A few, it seems safe to predict, will become the giant-killers of tomorrow. For managers of any business, the lessons of eBay are both exhilarating and daunting: the prizes offered by the internet are dazzling by any measure, but only those who can satisfy the demanding and changing tastes of consumers, the internet's true sovereigns, will survive to enjoy them.

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The Organisation of American States

How to protect Latin American democracy

Jun 9th 2005
From The Economist print edition

Wanted: a watchdog with teeth but not an American poodle

Reuters

Get article background

WHAT exactly is the Organisation of American States (OAS) for? For much of its 57-year history, the answer has been: not much. It has a fine mansion in Washington, DC, and a famously lavish pension scheme, both mainly paid for by the United States. In return, the 34-member organisation did Washington's bidding in its “backyard”.

In recent years, as democracy has spread across Latin America, the OAS has stirred. It has helped to protect democratic rule in several countries. In 2001, it adopted a Democratic Charter. This committed its members to representative democracy—and to take diplomatic action where this breaks down or is damaged by unconstitutional actions.

Sadly, in some Latin American countries, democracy still needs succour. This week, Bolivia was in chaos: the president resigned, for the third and seemingly final time, driven out by radical protesters who want the country's gas industry nationalised (see article). They are supported—and, claims the United States, financed—by Hugo Chávez, Venezuela's elected president, who has eroded pluralism and civil rights at home. In April, Ecuador's president was booted out by its Congress, and replaced by his vice-president. In Haiti a United Nations mission is trying to organise an election amid gang warfare.

But the OAS can step in only when asked by the country concerned. To bolster democracy, George Bush's administration wants to give some teeth to the Democratic Charter. At a meeting this week in Florida addressed by Mr Bush, American diplomats urged the OAS's foreign ministers to set up a permanent committee to police the practice of democracy in the region partly by hearing testimony from civic groups.

But Latin America no longer automatically follows Washington's lead, in part because democracy has brought centre-left governments to power in some places. That was reflected in the recent election as the OAS's secretary-general of José Miguel Insulza, a capable Chilean who was not Mr Bush's first choice. The foreign ministers duly diluted the American initiative, vaguely instructing Mr Insulza to “make proposals”.

That reaction was predictable. Their past experience of invasions and coups sponsored by the United States makes Latin Americans suspicious of anything that smacks of meddling in their affairs. Indeed, they signed up to the Democratic Charter only because its strictures are sugar-coated with “due respect for the principle of non-intervention”. They also suspect that the new plan is a fig-leaf for an American plot to oust Mr Chávez, a stridently anti-American populist.

But it is Latin America, not the United States, which has most to gain by trying to protect its democracy. South America's leftish leaders have been far too ready to pay court to Mr Chávez. They see that as an easy way to please their own political base while doing good business; in return for the bearhugs, Mr Chávez offers cheap oil and other deals.

Accepting these is short-sighted. Complaisance in the face of even elected autocracies of any political stripe endangers the shared democracy and closer integration which Latin America's leaders claim to champion. There is a large middle ground of diplomatic measures between passivity and forced regime change. Whether the OAS—rather than the newly-proclaimed South American Community—is the right body for such diplomacy is debatable. But the Democratic Charter is there. It is Latin America's responsibility, and in its own interest, to make it worth the paper it is written on.

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The European Union in crisis

And now, the euro

Jun 9th 2005
From The Economist print edition

The euro is not in danger of breaking up—yet

Get article background

THE shock of the French and Dutch noes to the European Union's constitutional treaty will reverberate long after next week's EU summit in Brussels. It is also unnerving many in financial markets, who are now fretting gloomily about the sustainability of Europe's single currency, the euro. Right on cue, one minor Italian politician (openly) and, according to a German magazine, several German officials (secretly) have been musing about whether the reintroduction of national currencies might be a good idea (see article).

Market jitters had hit the euro even before the referendums, and it has since fallen further. Yet talk of the currency's collapse, or of some countries leaving, seems off-beam. Many europhiles once argued that Europe's economic and monetary union could not survive without political union. But they were wrong: plenty of currency unions have worked with no political union (Britain and Ireland had one for over 50 years). Indeed, the evidence from eastern Germany since 1990 suggests that political union, if it means harmonising welfare benefits and wages despite big productivity gaps, can make monetary union less, not more, workable. That suggests that central European countries should not rush into the euro.

Nor, contrary to some claims, is there a clear parallel between the euro area's struggling, debt-ridden economies, notably Italy, and Argentina before it was forced off its strict convertibility link to the dollar in 2001-02. Italy is in economic difficulties, and its debt is high—but its problems were not caused by the euro, and any temptation Italians may feel to follow Argentina's example should be tempered not just by the practical difficulties but also by looking at that country's grim experience since its default and devaluation. Italy and other stuttering economies might in fact now benefit from a period of euro weakness, as the euro's strength had been denting their exports. And if bond markets belatedly start to differentiate between more and less creditworthy euro members, that can only be helpful in importing more fiscal discipline.

Yet if talk of the euro's collapse or of an early exit by some members is mistaken, it would equally be wrong to assume that all is well with the currency's management. Because the euro necessarily abolished national interest-rate and exchange-rate policies, it behoved an independent European Central Bank to operate a collective monetary policy that was both responsive and flexible. In fact the ECB has been unduly rigid, even puritanical, compared with, say, America's Federal Reserve. Recently the rich-country OECD, normally highly reticent in commenting on such matters, declared that the case for monetary easing in the euro area was “rather compelling”. If the ECB remains unresponsive, it risks increasing the markets' talk of a currency in crisis.

The euro has also suffered from misconceived efforts to restrict countries' fiscal freedom. The

recent emasculation of the stability and growth pact, which sought to limit euro members' budget deficits to 3% of GDP on pain of swingeing fines, is welcome. Even without the pact, countries such as Italy would have had only limited fiscal freedom, because of the scale of their debts; but Germany and France might have benefited over the past few years from a larger dose of fiscal expansion.

Physicians, heal yourselves

Yet by far the biggest blame for the euro area's problems, and thus for the travails of the currency, lies with governments' failure to reform their economies. When the euro was created, it was clear that its membership did not make up what economists call an optimal currency area (though nor, in many ways, does the United States). That made it essential for national governments to take measures to make the euro area more optimal—notably by fostering greater labour mobility and making labour and product markets more flexible.

The great hope of enthusiasts for Europe's single currency, as for its single market, was that it would unleash pressures that would force its members to reform their sclerotic economies to make them more flexible and competitive. The single market and the euro duly unleashed such pressures: but the core euro countries, especially France, Germany and Italy, have responded by resisting the reforms they made necessary. If euro-area governments now feel the need to restore confidence in their currency, as in the broader European project, they must find the courage to follow that course of economic reform. If they do not, the euro really could head into crisis—which is why reform remains more crucial to the EU's future than any amount of navel-gazing on the constitution.

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North Korea

Test its intentions

Jun 9th 2005
From The Economist print edition

The diplomats need to get a better act together

Get article background

HOPING for the best while preparing for the worst is a diplomat's lot. When it comes to dealing with North Korea's nuclear shenanigans, hopes were highest five years ago this month when the president of South Korea met the boss of North Korea, Kim Jong Il, for the first summit on the divided peninsula in 50 years of icy hostility. Yet once Mr Kim had pocketed the aid and the under-the-table millions that bought that famous handshake, hostility mostly resumed—except when he needed more goodies to prop up his rickety regime. This month's other anniversary is nothing to celebrate either: 12 months have passed since North Korea last sat down with America, South Korea, Japan, China and Russia for talks on blunting its nuclear ambitions. The lengthening silence has rendered this six-way effort perilously close to pointless.

North Korea's hint (not yet a promise) this week that it may return to the table soon may not change much. The purpose of the talks was to encourage Mr Kim to give up the nuclear weapons and means for making more that he claims to have. He has shown no such purpose. Indeed, those who argue that North Korea could be talked politely out of its nuclear efforts if only the price was right have to ask themselves why in the past it has pocketed all bribes and still cheated on every nuclear agreement it has ever signed.

In the talks up to last June, the North Koreans had stonewalled, threatening to test a bomb and to sell on their nuclear materials and expertise. They demanded big “rewards” for merely offering to refreeze illicit plutonium-making that they had unfrozen two years ago when America accused Mr Kim of working on a second, uranium-based, route to more bombs. As well as producing more plutonium, the North has ejected inspectors, flounced out of the Nuclear Non-Proliferation Treaty, proclaimed itself a nuclear power and, America worries, may now be preparing that finger-in-your-eye bomb test.

The six-way talks were meant to curb such belligerent behaviour. The other five at the table all officially agree that North Korea must not have the bomb (while diplomatically overlooking the awkward evidence that it has probably had one or two for some time, and may have more). All fear the dangerous chain-reaction that a bomb test might set off round the region—in nuclear capable Japan, South Korea and Taiwan. Yet all could be tapped for aid, investment and security assurances if North Korea could be coaxed out of its bunker to trade in its bombs for help in rebuilding its clapped-out economy.

Back to the table isn't enough

To America in particular, though, the biggest advantage of the five sticking together was that Mr Kim would find it harder to play each off against the others, as he had done in the past. Combined pressure was more likely to lever him out of the bomb-making business. That could still happen.

Mr Kim's reluctance to talk suggests that he too sees the six-way formula as likelier to cramp his nuclear style. Yet the long delay in restarting the talks has shown up strains among the five that bode ill for getting North Korea to negotiate seriously, even if it can be pressed once more to show up.

Though all say that North Korea should not have the bomb, each of the other five rates the risks differently. China fears more the chaos and refugee spills of a North Korean collapse. It provides Mr Kim with most of the country's food and fuel. It could easily get his negotiating attention by flipping out the lights in Pyongyang, but refuses to do so. It also blocks discussion of his nuclear transgressions at the UN Security Council.

Like China, South Korea has increasing business with North Korea. It is withholding massive aid until North Korea agrees to disarm, yet drip-feeds Mr Kim enough to help his regime survive—while keeping mum about not just its nuclear antics, but also the kidnapping over the years of thousands of South Korean citizens, the appalling treatment of political prisoners and the like. That silence only emboldens Mr Kim to think he can get away with anything.

America is more forthright about the regime's nastiness. It is also more impatient to take its nuclear rule-breaking back to the Security Council. Yet the Bush administration's internal divisions also frustrate the concerted pressure needed if Mr Kim is to be pushed to deal. Some on Mr Bush's team insist they are ready to negotiate in all seriousness, others that you don't negotiate with evil. Which, America's partners ask, is it to be?

The sceptics may be right. Mr Kim may have no intention of giving up his nuclear ambitions. But the diplomats could still be doing a better job of changing his mind.

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Economist.com OPINION

Road pricing

Jam yesterday

Jun 9th 2005
From The Economist print edition

British drivers are badly done by. A road-pricing scheme could help change that

THEY are hemmed in by more bus lanes, picked on by more traffic wardens, spied on by more speed cameras, punished with more fines and soaked more enthusiastically by the exchequer than ever before. Now, to cap it all, British drivers are threatened with a road-pricing system that would track their movements and bill them according to where they travel when. So much for the freedom of the road.

The driving lobby suspects that the government would use road pricing to screw more money out of it. But it need not be that way. Combined with a reform of motoring taxes, road pricing could make life better, not worse, for drivers.

Small-island blues

Britain's roads are the most clogged in Europe. The length of the queues is not just fraying drivers' nerves but also generating pollution, damaging health and raising businesses' costs. And it's getting worse: by 2010, traffic volumes are expected to be a quarter higher than they were in 2000.

Road pricing is an economist's dream solution because it replaces a system that rations road use by queuing, which wastes people's time, with one which rations it according to the value different drivers place on their journeys. And as demand varies, so can price: in cities at rush-hour prices can be set high; at night and in the countryside they can be kept low.

But road pricing has always been regarded in Britain as a politician's nightmare. While other Europeans are used to motorway tolls, Britons have regarded the idea of charging them for using

roads as analogous to charging them for breathing.

Ken Livingstone, the mayor of London, has gone some way to changing that. The congestion charge he introduced two years ago has reduced traffic by 15% and increased speeds by 22% in central London without much damage to business. The scheme's success has given the government the courage it needed to broach the idea of extending road pricing nationally, but it will still have to work hard to sell the idea to motorists. The best way of doing that would be to introduce road pricing along with a reform of the inefficient system of taxing and investing in transport.

Road taxes should charge drivers for four sorts of damage they do: to road surfaces, to the climate, to other people's health and to other drivers by creating jams. The two main current sorts of tax—fuel duty and vehicle excise duty (VED)—do not do that well. VED, an annual tax, penalises some dirty cars, while fuel duty taxes people for burning up petrol, and thus for contributing to climate change. Neither tax, however, does much to discourage congestion, which wastes time and damages health.

Road prices, by contrast, could be set to take into account all those four sorts of damage. Charges would depend crucially on assumptions about the costs of economic damage; but according to one set of calculations (see article), mid-range assumptions about climate-change and pollution costs would lead drivers to pay about the same overall as they do at present. Rural drivers would pay less; urban ones would pay more but get around faster, so saving money in other ways.

Once a road-pricing system was up and running, it would also provide valuable information about demand. At present, investments in the road system are based on clunky cost-benefit calculations. By charging for road use, the government would discover just what people were prepared to pay for. That would encourage private investment in roads, and might lead to a more rational system of allocating public investment in transport of all types. At present, roads do unreasonably badly: in 2002-03, road users paid £26.5 billion ($48 billion) in fuel and VED, and the government spent £7.5 billion on the roads, while rail passengers got £2.8 billion in subsidy. What's more, a system that charged cars specifically for the pollution they cause would undermine one of the main arguments for subsidising rail.

Drivers' wariness about road pricing is understandable, but they would probably benefit. They might pay more, they might pay less, but they would almost certainly get better roads and swifter journeys. So at least they'd spend less time fuming in jams about the injustice of it all.

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Letters

Jun 9th 2005
From The Economist print edition

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Eurovisions

SIR – French and Dutch voters followed your advice to reject the constitution, albeit for reasons opposed to your liberal philosophy ("A song for Europe", May 28th). We should now consider a more democratic approach, such as direct election of the president of the European Commission; referendums if a million citizens oppose a European Union law; enabling national parliaments representing at least one-third of Europe's citizens to reject a European law on subsidiarity grounds; making the European Parliament a real co-legislator across the board, including foreign affairs and monetary policy; and scrapping parliament and commission meetings in Strasbourg.

Jules Maaten, MEP
Constitutional Affairs Committee of the European Parliament
The Hague, Netherlands

SIR – Your conclusions are the opposite of those that French voters would have wanted politicians to draw. Many French socialists rejected the constitution because, in their eyes, it would have created a more "liberal" and less social EU. From their point of view, tomorrow's Europe needs more than just competition and a common market. It needs a social perspective. Moreover, the notion of a strong Europe as a counterbalance to the only remaining superpower is one of the principles of both French mentality and foreign policy, today more than ever. Those French voters that said *non* to the European constitution do not want to bury the idea of a union based on common values and a certain political consensus, quite the reverse. In other words, you might be writing from a British point of view, but certainly not from a French one.

Benjamin Wacker
Freiburg, Germany

SIR – Having re-read your 2000 attempt, perhaps it could be amended and used as a basis for a new attempt ("Our constitution for Europe", October 28th 2000). It is about the right length and contains many excellent ideas. If you teamed up with publications of comparable quality across the EU and had a large online debate on which EU citizens could comment and suggest amendments (but with an overall word limit of 4000), then you might well come up with something workable. It is clear that a solution imposed by the political elite will not be accepted—something crafted by a European-wide town meeting over the web might be.

Nicholas Beale
London

SIR – As one of the few remaining undergraduates studying Latin, I feel compelled to point out the minor grammatical error in your leader. In the Latin language, word order is irrelevant, therefore

“E unum pluribus” means exactly the same as “E pluribus unum”: “Out of many, one”. Meaning is conveyed by the case of the word and not the word order, therefore, “out of one, many” would be “E uno plures”.

Adekanmi Lawson
Bristol

SIR – Didn't anybody in your office do classics? “Ex uno pluria.” Admit it, you knew that all along, didn't you?

David Book
Monterey, California

SIR – I believe the phrase you intended was “E uno plura”. Of course, that probably would have killed the joke.

David Herman
Cambridge, Massachusetts

SIR – It might be a good idea for *The Economist* to stick to English. Try “Ex uno plures”.

JULIAN JOHNSTON
London

Software piracy

SIR – Your article on software piracy was extreme, misleading and irresponsible (“BSA or just BS?”, May 21st). The headline was particularly offensive. The implication that an industry would purposely inflate the rate of piracy and its impact to suit its political aims is ridiculous. The problem is real and needs no exaggeration.

Beth Scott
Business Software Alliance
London

Institutional PRIlysis

SIR – It is misleading to say that Mexico's president, Vicente Fox, has “failed to...set up new political institutions to replace the all-powerful presidency of the PRI's rule” (“Will the real Andrés Manuel López Obrador please stand up?”, May 28th). Rather, the inability of President Fox to orchestrate an overhaul of such institutions is the best evidence of how weak a Mexican president, in constitutional terms, really is—holding no special legislative powers, no emergency decree powers, or ability to convene plebiscites. Seventy years of the PRI's one-party government concealed this institutional weakness. Sure, Mr Fox has been a huge disappointment, but the problem is not so much his lack of political acumen (real or alleged), but a political system that fragments power, a representative system that empowers old-line corporatist sectors and profound disagreements about the relationship between public and private sectors— the PRI itself delicately balanced such diverse interests.

Fabrice Lehoucq
Hamburg, Germany

Money in China

SIR – You claim that banks in China are becoming reluctant to hold paper issued by the People's Bank of China (PBC), the country's central bank ("What's it worth?", May 21st). Quite the opposite, in fact. China's banks are seeking to build their capital adequacy ratios, after being told by the regulator that they must meet 8% by January 2007. Investments in PBC paper, which carry no capital requirement, are now preferable to loans to corporates, which demand a capital equivalent of 100% of the value of the loan. At the same time, many analysts suspect that the banks have reined in their lending to help the PBC control money supply. With big foreign-exchange inflows, fast-growing bank deposits and few other investment options, banks are keen buyers of PBC paper, despite their low yields.

This means that sterilisation is surprisingly cheap in financial terms—we estimate it only cost the PBC $3.2 billion last year, compared with some $15 billion-18 billion in returns from investing the country's foreign-exchange reserves overseas. And consumer price inflation is low. So, all the problems that under-valued currencies normally face are not apparent in China.

This has implications. The case for a big revaluation, say more than 6%, is weakened. Certainly, more flexibility, a small band widening, would be welcome. But the danger of undermining export growth with a big revaluation outweighs the danger of sparking more speculative inflows with a small first move. The government has, so far, shown it can cope with these inflows.

Stephen Green
Standard Chartered Bank
Shanghai

Good neighbours

SIR – Justin Hategekimana suggests that Canada's provinces should become new states in the United States (Letters, May 28th). Most of us would be more interested in finding a way of removing the United States from the continent and towing it over to Hawaii than join in some sort of union. Distance might help us to be better friends. At the moment it's like living next door to a biker gang.

George Lerchs
Vancouver, Canada

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Economist.com SPECIAL

Congo

Africa's unmended heart

Jun 9th 2005 | KINSHASA
From The Economist print edition

Reuters

Congo's war, the bloodiest anywhere since 1945, is more or less over. The fear in the vast and shattered country is that it could restart

Get article background

WHEN your correspondent tried to fly out of Kinshasa seven years ago, rebels attacked the airport and the flight was cancelled. Congo's great war was just starting and there were charred, petrol-soaked bodies on the capital's garbage-strewn streets. Now, millions of deaths later, the war appears to be over. The government has made peace with most of the main rebel groups. The half-dozen foreign armies that ravaged the country have withdrawn, and been replaced by 16,000 UN peacekeepers. Tribal militias still battle and pillage in the north-east, but the UN, after a long and shameful spell of inertia, is finally starting to protect the innocent by shooting or capturing the bad guys.

Arriving in Kinshasa today is less fretful than it was. By hiring a retired boxer as an escort, your correspondent passed through the airport without losing any possessions. (The gentleman in question is something of a local celebrity: on seeing him, customs agents smile, mime a left hook and forget to rifle through one's bags.) Like Congo itself, the airport is shabby, dysfunctional and packed with ill-paid, predatory officials. But at least the guns are quiet.

The question is, for how long? The war formally ended in 2003, when most of the warring parties came together to form a power-sharing transitional government. This was hardly an ideal solution. None of the new regime's members was elected, few are honest and some are mass murderers.

But Congo's weary people were happy to accept gunmen in government as a temporary measure to end the fighting. Under the terms of the peace deal, nationwide elections for a legitimate regime were to be held by June 30th.

They won't be. This is partly for logistical reasons. Congo has held no census since 1984, so no one knows how many voters there might be. (The electoral commission guesses 28m, out of a population roughly twice that number.) In a country with no experience of democracy, no functioning civil service and virtually no roads, organising a ballot takes time, even with the best political will in the world.

Such will is notably absent. After two years in power, the government only last month got round to approving a draft constitution laying the ground rules for the poll and defining the powers of whatever regime is elected. And that constitution still needs to be approved by a referendum. The electoral commission, meanwhile, has registered no voters and hired hardly any of the 40,000-60,000 electoral workers it thinks it will need, let alone taught them how to use the 9,000 voter-registration machines it finally ordered last month.

Realistically, no election can be held this year. The peace accord allows, under exceptional circumstances, for up to two six-month delays. So everything is on track, really, says the government. Many Congolese think this is self-serving baloney. They believe their unelected rulers are postponing the poll for as long as possible because they want another year to carry on stealing.

Rumours and stirrings

The leader of the main opposition party, Etienne Tshisekedi, says the government will cease to be legitimate on June 30th, and is calling for its members to stand down then. Probably most people in Kinshasa agree with him. Incendiary leaflets are circulating, and there are rumours of the mass distribution of machetes. In May, a general strike paralysed the town of Kananga and riots gripped the diamond city of Mbuji-Mayi. On June 5th, when one of the country's four vice-presidents attended a football match in Kinshasa, the 90,000-strong crowd chanted “Kill him”.

It could blow over. But peace in Congo cannot be taken for granted. Half of Africa's modern wars have reignited within a decade of ending, typically because post-war regimes have not addressed the problems that caused them to flare up in the first place. Congo's transitional government has conspicuously failed to treat the malady that makes the country so war-prone: corruption.

The country first fell apart because its rulers stole the cement. The state was looted until the government could no longer control its own territory. Foreign invaders and domestic rebels filled the vacuum. Mending the devastation they wrought will require more statesmanship than the nation has ever known.

Congo is a big place—bigger, for instance, than all the states that voted for John Kerry in America's election last November put together. It shares a border with nine other countries, and touches every sub-Saharan region: central, south, east and west. A stable Congo could be Africa's healthy heart. Arterial roads could be built through it; it has a huge trove of untapped minerals and enough hydroelectric potential to light up half the continent. Conversely, a return to chaos could be a continental heart attack.

Land of the surprising son

Optimists point out that the country's current president, 33-year-old Joseph Kabila, is probably its best since independence in 1960. Pessimists retort that that is not saying much. His best-known predecessor, Mobutu Sese Seko, who ruled from 1965 until 1997 and renamed the country Zaire, was a ruthless crook who fitted his palace with a nuclear shelter, hired Concorde for shopping trips and so gutted the treasury that inflation between October 1990 and December 1995 totalled 6.3 billion per cent. He lost control because he and his flunkies filched too much. Unpaid soldiers refused to defend the regime against a rebellion led by Laurent Kabila, Joseph's father, who seized power and restored the country's old name.

The senior Kabila turned out to be even worse than Mobutu. He was equally brutal and corrupt, but less intelligent. He had people executed while he was drunk and then forgot that he had done so. He ordered diamond dealers to sell their gems to a state-backed monopoly for near-worthless Congolese francs, and then wondered why the country's largest source of export revenues dried up. He provoked Rwanda, Congo's aggressive neighbour, by arming and supplying the perpetrators of the 1994 genocide, who were hiding in eastern Congo's forests. Mobutu had done the same, which was why the Rwandan army helped Kabila topple him. Now Rwanda backed a revolt to topple Kabila, too.

That was how the war started in August 1998. Zimbabwe, Angola and Namibia rushed to Kabila's defence. Uganda sided with the Rwandans, but later fought them. Then it got really confusing. In all, six national armies and dozens of rebel groups and militias joined the fray. All sides plundered Congo's minerals. When Joseph Conrad spoke of “the vilest scramble for loot that ever disfigured the history of human conscience”, he was describing Congo under Belgium's King Leopold II, but his phrase has not dated.

No one knows how many people died. A survey published in December by the International

Rescue Committee (IRC), a pressure group, put the death toll at 3.8m between August 1998 and April 2004. The IRC calculated this by comparing death rates before, during and after the war and then extrapolating. Almost all the deaths—more than 98% in 2003-04—were from war-induced starvation or disease, rather than from bullets or spears. Clearly, the IRC's guess is open to challenge. But no one has come up with a better one.

Amid the mayhem, Laurent Kabila was shot dead by one of his bodyguards. His son Joseph took over, and quickly proved wiser than his father. Under western pressure, he signed a peace accord in South Africa in 2002. Unlike his father, who tore up treaties like old betting slips, he has honoured it, more or less.

He welcomed his former enemies into the transitional government that took office in June 2003. Two of his four vice-presidents are ex-rebels, and most armed factions have been given a ministry to mismanage. In theory, all the big rebel forces are to be merged into a single, slimmed-down national army. In practice, most remain under the control of their old commanders, and the process of demobilisation has been worryingly slow.

Most of Congo is now calm, although the east is much less so. A hot war continues in the north-eastern region of Ituri, where rival militias (backed by Rwanda and Uganda respectively) have killed at least 60,000 people in a quarrel over border trade and gold fields.

The other immediate threat comes from the Rwandan *génocidaires* who continue to lurk in the eastern Congolese rainforest. So long as they remain, Rwanda could invade again, as it has twice before, to try to eliminate them. Rwanda's president threatened to do so last year.

With help from the UN, both of these dangers are being tackled, says William Swing, the head of the UN mission. In Ituri, the blue helmets have started storming militia camps. Mr Swing says the UN's firepower has put the militiamen on the defensive and more than 12,000 have been persuaded to join a disarmament programme, leaving only a hard core of 1,500-2,000 at large. As for the genocide veterans, their main faction agreed on March 31st to lay down its weapons, go home and form a peaceful political party.

Not everyone is as optimistic as Mr Swing. By mid-May, the transit camps for surrendering Rwandan guerrillas were still empty. Last week a peacekeeper in Ituri was killed and two employees of the medical charity, Médecins sans Frontières, were abducted. And on June 2nd, Human Rights Watch, a pressure group, issued a fat report on continuing “widespread ethnic slaughter, executions, torture, rape and arbitrary arrest” in the region.

Even by the standards of war, some of the atrocities in eastern Congo are shocking. Zainabo Alfani, for example, was stopped by men in uniform on a road in Ituri last year. She and 13 other women were ordered to strip, to see if they had long vaginal lips, which the gunmen believed would have magical properties. The 13 others did not, and were killed on the spot. Zainabo did. The gunmen cut them off and then gang-raped her. Then they cooked and ate her two daughters in front of her. They also ate chunks of Zainabo's flesh. She escaped, but had contracted HIV. She told her story to the UN in February, and died in March.

They've got a good job, by Congolese standards

The new “unified” Congolese army seems incapable of policing the east. When ordered to work together, its soldiers sometimes fight each other instead. So the heavy work is left to the UN.

Yet the show goes on

Nonetheless, the junior Mr Kabila's government is the only show in Congo, so donors have flocked to support it. In 2003, including debt relief, Congo was the largest recipient of French aid and the fourth-largest recipient of America's.

The donors' cash buys some influence. At the urging of the International Monetary Fund (IMF), Mr Kabila has restored economic sanity—inflation fell from 135% in 2001 to 4.4% in 2003, though it has since crept back up. As the violence eases, growth has rebounded, and is expected to hit 7% this year. But the average Congolese income, by the IMF's estimate, is still only $100 a year. That is an unbelievably low sum for a country where food is fairly easy to grow. The true figure must surely be a bit less wretched. But nobody really knows.

The country's recovery would be assisted if foreign investors, who mostly fled decades ago, were to return. Some are coming. Adastra, a London-listed mining firm, has signed a joint-venture deal with the government to turn two huge heaps of dirty-white dust into metal. The heaps are by-products of a moribund mine near the once-prosperous town of Kolwezi. Between them, they contain 1.7m tonnes of copper and 360,000 tonnes of cobalt. Tim Read, Adastra's boss, reckons the project has a net present value of $459m.

Freelance mining

Mr Read's firm is betting that Congo will not go back to war, and that its government—which has introduced a generally admired new mining law—will respect property rights, or at least those of big investors. The Congolese government is betting that Adastra will pay taxes and create jobs that are preferable to the local alternative, examples of which can be seen all around the big pile of dirt. Hordes of freelance miners scrabble for ore by hand, wash it in a river and sell it to local smugglers. Many are injured or killed when their tunnels collapse. Your correspondent saw a boy

no bigger than his three-year-old son struggling under a half-sack of ore (he was probably older; malnutrition makes Congolese children quite short).

Adastra hopes to make a difference. But after the construction phase is over, the firm will employ only 700 people in a town of 250,000 where unemployment is practically universal. A shop assistant in Kolwezi makes $35 a month—less than those desperate freelance miners. The lowest-paid civil servant gets $2 a month. Congo needs many more Adastras, but they will come only when the country looks less daunting.

Congo's people have learnt to cope. In the absence of piped water, families in Kinshasa earn a living carrying buckets of it to building sites. A story from the southern town of Lubumbashi offers a snapshot of what works and what doesn't.

Veronique**,** an office worker, was separated from her daughter by the war. When peace broke out, she booked an aeroplane ticket for her (penniless) girl to rejoin her. But before the daughter could board the plane, she was detained. Her yellow fever vaccination card had been stamped by rebel health authorities, and so was invalid, the officials tut-tutted. Alas, she had no money for a bribe.

But Veronique was able to send her the equivalent of cash by mobile telephone. She bought $20 worth of telephone cards. These give you a code number which you key into your phone and thereby “recharge” it with pre-paid airtime. Veronique called the obstructive officials and gave them her code numbers to recharge their own mobile phones. It took only minutes to send her bribe across the country—faster than a bank transfer, which would in any case have been impossible, since there is no proper banking system.

That's Congo. Private cellphone networks and private airlines work because the landlines do not and the bush has eaten the roads. Public servants serve mostly to make life difficult for the public, in the hope of squeezing some cash out of them. Congo is a police state, but without the benefits. The police have unchecked powers, but provide little security. Your correspondent needed three separate permits to visit the railway station in Kinshasa, where he was stopped and questioned six times in 45 minutes. Yet he found that all the seats, windows and light fixtures had been stolen from the trains.

The government offers the usual excuses. Before a British audience in March, Jean-Pierre Bemba, one of the four vice-presidents, stressed that much of the blame for corruption rests with those (ie, western firms) who pay the bribes. But bribery, though rife, is less of a problem than simple theft.

For example, the central government is shelling out $8m a month to pay soldiers' salaries, partly in the hope that they will stop robbing civilians. But many soldiers are still not paid. In the east, where the problem is especially acute, observers assume that local commanders are snaffling their men's pay packets. Not so, says one of Mr Kabila's disgruntled advisers. In fact, he says, the money sent out east is intercepted and wired straight back to Kinshasa, where it is stolen by bigwigs. “It's called *Opération Retour*,” he explains.

Supposing Congo weathers the likely storm of protest around June 30th and eventually holds elections, what then? It will depend on two things. First, who will win the presidency? Second, will the next president allow his powerful rivals enough of a stake in government to dissuade them from going back to war?

The most likely presidential contender is the incumbent, Joseph Kabila. In the absence of opinion polls, it is impossible to say how popular he is. But he is not personally blamed for any major atrocities, and he has all the apparatus of the state to bolster his cause.

Another possibility is Mr Bemba. As the vice-president in charge of the economy, he has colossal powers of patronage. But his patriotism is open to question: he used to lead a rebel army backed by Uganda. And his men are alleged to have eaten people. Mr Bemba dismisses the allegation, but it is widely believed and will not endear him to voters.

A third contender is Mr Tshisekedi, the opposition leader. His long and honourable opposition to Mobutu has won him much support in his home region and around Kinshasa. But he has no money to mount a nationwide campaign. It would boost his chances if he could organise big protests against the missed election deadline. Which gives the government another reason to crush any protests.

Whoever the next president is, he will have to placate several groups with contradictory desires. The men with guns must be given the right mixture of threats and inducements not to wreck the peace. People must feel they have enough stake in the new regime not to try to overthrow it. And donors must be shown enough progress that they do not walk off in disgust. Somehow, Congo must find a leader who will refute V.S. Naipaul's jibe. “It isn't that there's no right and wrong here,” the novelist once wrote. “There's no right.”

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Legal matters

The insidious wiles of foreign influence

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From The Economist print edition

How much are other countries' laws influencing America's?

FOR the first century of their country's history, American lawmakers and judges repeatedly looked beyond America's borders, particularly to England, for precedents that could help their own legal thinking. Over the next century, America ardently supported efforts to create a framework of international laws and institutions. But since the end of the cold war, and particularly since the election of George Bush, it has grown increasingly resistant to “foreign” influence. Or so many outsiders claim.

In fact, the debate about the relationship between American law and foreign laws is more complicated than it appears, and Americans themselves are far from united (or consistent) on the subject. Some, such as John Bolton, set to become Mr Bush's ambassador to the United Nations, believe that treaties that constrain American sovereignty in any way are “not legally binding”; but Mr Bush cited Iraq's transgressions of international law as part of the reason to go to war. Mr Bush has pulled America out of the International Criminal Court (ICC) and the Kyoto agreement on the environment, ignored international laws of war and sent terrorist suspects into legal limbo in Guantánamo; yet America is among the strongest backers of global rules on trade, finance and international investment.

In general, there are three main areas of conflict. The first involves foreign treaties that America has subscribed to: what force do they have in America? The second, which tends to be focused on the Supreme Court, revolves around the relevance of foreign legal practices to America. The last has to do with how far overseas American courts can reach.

It is tempting to claim that America has always been worried by international treaties. (“Against

the insidious wiles of foreign influence," George Washington wrote in 1796, "the jealousy of a free people ought to be constantly awake.") In fact, as long as global rules and institutions helped its own interests, America was happy to go along with them. But, as Philippe Sands, a professor of law at University College, London, argues in "Lawless World", his latest book, "The rules which were intended to constrain others became constraining for their creators." And so the pendulum swung back.

It has done so farthest under this president. George Bush senior, for instance, was quite keen on the International Court of Justice in The Hague (the World Court), calling it "a central and indispensable element of an international legal order". By contrast, at a crisis meeting in the White House after the terrorist attacks on September 11th 2001 (admittedly strong provocation), his son is reported as saying: "I don't care what the international lawyers say. We're going to kick some ass!" And so he did. There followed a string of violations of international humanitarian law, including the indefinite detention of "enemy combatants" at Guantánamo and the torture of Iraqi prisoners at Abu Ghraib.

The infamous "torture memos" were part of this tendency. In them, administration lawyers argued that the president, as commander-in-chief, had the "inherent constitutional authority" to approve any interrogation techniques needed to protect the nation's security—regardless of the 1949 UN Convention Against Torture, ratified by America in 1994. Human Rights Watch, a non-partisan monitoring group, claims that America's abuse of detainees was the "predictable result" of Mr Bush's decision to circumvent the law.

In virtually every other country in the world, an international treaty or convention, once ratified, overrides domestic law. Not so in the United States; it simply becomes part of the ordinary body of American law. As such, it can be ignored by the president or Senate if national security, or even ideology, seems more important.

After the World Court found against the United States in 1986 for mining Nicaragua's harbours, President Ronald Reagan is said to have told his advisers to tear up the relevant treaty giving the court jurisdiction. When informed that this required two years' notice, he reportedly told them to tear up that provision too.

American conservatives, infuriated by criticism of their country's war on terror and the invasion of Iraq, have accused Europeans and human-rights groups of waging "law-fare" against the United States, using the "soft" weapon of international law in a bid to tie it down. The ICC is one of their favourite *bêtes noires*. In Mr Bolton's view, the court "runs contrary to...basic constitutional principles of popular sovereignty, checks and balances, and national independence". America has signed bilateral agreements with more than 100 countries granting its citizens immunity from ICC prosecution. Yet it strongly supports other international courts, such as those set up to deal with genocide and other atrocities in Rwanda and ex-Yugoslavia.

Conservatives have been further inflamed by the increasing frequency of Supreme Court references to foreign laws and opinions. Tom DeLay, the House majority leader, recently lambasted Justice Anthony Kennedy for his "incredibly outrageous" citation of international views in the court's ruling outlawing the death penalty for juvenile killers.

Republicans have now introduced a resolution in Congress banning inappropriate reliance on foreign laws or judgments in interpreting the constitution. Although almost certainly a violation of the separation of powers, it has already attracted a lot of support.

In fact, the court has never based its decisions on foreign sources; it has merely made passing reference to them, notably in recent landmark rulings on sodomy, affirmative action and the execution of mentally retarded and juvenile killers. Moderates such as Justices Kennedy, Sandra

Day O'Connor, Stephen Breyer and Ruth Ginsburg argue that, when confronted by a particularly intractable point of law, it simply makes sense to examine experiences and opinions outside America. “Laws are organic, and they benefit from cross-pollination,” Justice O'Connor has said.

For court conservatives, such as Antonin Scalia and Clarence Thomas, this is anathema. The court should not impose “foreign moods, fads or fashions” on Americans, argues Justice Scalia, who may succeed William Rehnquist as chief justice. To him, the practices of the “world community” are irrelevant: “Either America's principles are its own, or they follow the world; one cannot have it both ways.”

Yet Americans are happy to impose their own “fads and fashions” on others. Last week, a London court ruled that Ian Norris, the former head of Morgan Crucible, a British engineering firm, could be extradited to the United States because of price-fixing by two of the firm's American subsidiaries. The alleged offences took place between 1989 and 2000, when cartel activity was not a criminal offence in Britain. Mr Norris's lawyers said the case, the first involving extradition for an alleged antitrust offence, meant that no English executive with American subsidiaries or operations could any longer feel safe.

Under a treaty that came into force last year, extradition rules have been eased between Britain and the United States. America no longer has to present supporting evidence against someone it wants to extradite from Britain. It simply has to claim that an “extraditable” offence—one carrying a prison sentence of at least a year—has been committed. But because the Senate has so far declined to ratify the treaty, the new rules do not apply the other way round. If Britain wants to extradite a suspect from America, it still has to make out a *prima facie* case against him.

America's crackdown on white-collar crime goes further. Under its wire-fraud laws, anyone using an American internet server to contact colleagues or clients could face extradition, even though the alleged offence did not take place in America or involve American victims.

Foreign companies are getting worried, too, about the use of America's Alien Tort Claims Act, passed in 1789, which grants jurisdiction to American federal courts over “any civil action by an alien for a tort only, committed in violation of the law of nations or a treaty of the United States”. This is increasingly being invoked by foreigners in America to sue international companies for alleged wrongs suffered outside the United States. One can imagine the rumpus if such a law were invoked, abroad, against an American company.

Often disputes sprawl over more than one of these areas. One example occurred last month, when the Supreme Court rejected, in a 5-4 ruling, a death-sentence appeal by a Mexican citizen in Texas who had claimed that he and 50 other Mexicans on death row in America had been denied legal help from their consulates.

In a ruling last year, the World Court upheld the Mexicans' claim. By denying them consular help, it said, America had violated the 1963 Vienna Convention on Consular Relations, ratified by the United States in 1969. Mr Bush, who as governor of Texas had signed many of the men's death warrants, angrily announced America's withdrawal from the protocol giving the court jurisdiction over such disputes. But, surprisingly, he also directed the state courts to “give effect” to the court's decision by granting “review and reconsideration” to the Mexicans' cases.

This a majority of the Supreme Court has now decided to do, and the case will go back to the Texas courts for review. But, in a dissenting opinion, Justice O'Connor said that the question of whether international law was binding on American courts was of such “national importance” that it should have been reviewed in the federal courts. It may yet end up there.

Economist.com WORLD NORTH AMERICA

The Democrats

Looking for a plan

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From The Economist print edition

Democrats are convinced that George Bush's economic policies are wrecking America. They are less sure about what should replace them

Reuters

Clinton and Rubin, full of ideas

YOU can sum up the Democrats' current economic strategy in three words: “Just say no.” Whether it is George Bush's ideas for Social Security (pensions) reform, the free-trade agreement with Central America (CAFTA) or efforts to control the rise in spending on Medicaid, the Democrats in Congress are offering nothing but blanket opposition. No alternatives, no negotiation. Just say no.

Thus far with great success. Congressional Democrats, traditionally a fractious crowd, are standing as one. Robert Wexler, the lone congressman who broke ranks by producing an alternative plan to shore up Social Security, was quickly squelched. The party's economic elders, such as Robert Rubin, the former treasury secretary, have endorsed the approach. And politically it seems to be working. The president's strategy for legislative success in the first term—peeling off a crucial number of Democratic votes to gain a majority—has been stymied. And Democrats, so far, seem to have avoided a voter backlash. Opinion polls suggest Americans are becoming ever more sceptical of Mr Bush's plans for private-pension accounts.

Politically, “just say no” has clear appeal. Burned by their first-term experience of negotiating with Mr Bush, whether on prescription-drug coverage or education reform, the Democrats see no point in compromise. Blanket negativity provides cover for otherwise fissiparous views. And it masks the fact that the top congressional Democrats are not particularly interested in, or adept at, economic policy.

But the strategy is also moving the Democrats further to the left. On Social Security reform, for instance, Mr Bush recently floated a plan to help plug the system's financial hole with “progressive indexation” of benefits: cut the growth in future benefits for richer Americans by tying them to consumer-price inflation while keeping benefits for poorer people tied to wage growth, as they are now. Many congressional Democrats decried the idea as a cut in benefits for the middle class, implying that benefit cuts were off the table as part of pension reform. As Will Marshall of the centrist Progressive Policy Institute (PPI) points out, that is a clear shift. “Back in the late 1990s,” he argues, there was consensus that “any balanced and progressive reform would have included benefit cuts.”

Similarly, many congressional Democrats now attack the 2001 No Child Left Behind education reform, even though many of them supported it. Some opposition is based on Mr Bush's subsequent failure to fund the law fully but, as Robert Gordon of the Centre for American Progress (CAP) points out, many Democrats are now sceptical about the reforms themselves, such as the

focus on educational testing. On trade, too, there has been a shift. Most Democrats have long been trade sceptics, but on CAFTA even the centrist free-traders have come out against. Democrats, it seems, are now universally opposed to trade deals.

But at some point Democrats, particularly potential presidential candidates, will need to lay out what they are for, not just what they are against. That leads to important questions. Are these tactical shifts on economic policy symptomatic of a broader shift to the left? What economic policies do Democrats actually stand for?

The answers are unclear. On economic policy, as on much else, the Democratic Party is engaged massively in navel-gazing. For years, the dominant economic strain within the party has been Rubinomics—budget discipline, an embrace of globalisation, competence rather than ideology. Although the party's economic core is still the group that surrounded Bill Clinton, particularly Mr Rubin, many Democrats reckon their recipe for economic success is looking uninspired. They still boast of their fiscal prudence as a contrast to Mr Bush's recklessness, but worry that fiscal discipline is a less effective rallying cry when, despite huge budget deficits, America's interest rates remain extraordinarily low. Persistently sluggish job growth and stagnant real wages have also caused many centrists to worry about the consequences of globalisation.

More important, the centrists lack big new ideas. In 1992, the PPI was the epicentre of New Democratic economic thinking, and an engine in overdrive. Although the PPI still churns out useful ideas, many Democrats now regard it as tired. The CAP is seen as the new, vibrant institution. But although it was set up by John Podesta, another Clintonite, its centre of gravity is significantly to the left of the PPI. And some say it offers more spin than substance.

The old Clinton stalwarts are beavering away below the radar. Gene Sperling, the former head of Mr Clinton's National Economic Council and now a fellow at the CAP, is writing a book that describes a progressive agenda for growth. Peter Orszag, another ex-Clintonite at the Brookings Institution, is gathering clever new centrist policies from academics. Sparky ideas abound (such as new ways of insuring people against catastrophic risks or replacing the estate tax with an inheritance tax). But the centrists are not—yet—offering a compelling revamp of Clintonomics.

Nor has the left produced a coherent set of big economic ideas. There is no lack of money or energy on the progressive side of the party: rich Democrats are painfully aware that many of the plans now pushed by Mr Bush, whether on Social Security or tax reform, were plotted for years in a clutch of conservative think-tanks. The rich progressives are determined to follow suit. “Democracy Alliance” is a new loose grouping of rich donors, such as George Soros, who plan to foster new ideas and institutions on the left. But with the exception of the CAP, that effort is in its infancy. Perhaps more important, the left-wing thinkers have, thus far, shown little intellectual originality. They have become bolder in their (long-standing) opposition to globalisation. But when asked about an economic agenda, most progressives trot out familiar lines about industrial policy and the need for more investment in everything from education to roads.

In short, there is no clear Democratic economic plan. Fashioning one will be the responsibility of putative presidential candidates. Just as it took Bill Clinton to create Clintonomics, so the new economic agenda will depend on who takes charge of the party. In some areas the decisions will be purely political. Democratic wonks, as well as Republican ones, know the alternatives for shoring up Social Security by heart. In other areas, particularly policy towards trade and globalisation, the intellectual rifts are real and deepening, with sceptics on the left in the ascendancy. Fighting that leftward shift will require, at the least, more concrete ideas about how to help the losers from globalisation.

Fortunately, some issues remain on which the centre and left of the party are not at loggerheads and where there is plenty of room for new, bright thinking. Tax reform, where Democratic ideas

are starting to bud, could be a good place to begin. George Bush's tax-reform panel presents its own plans this summer. Can the Democrats come up with an alternative, beyond just saying no?

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California

Bring on the revolution

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In his likely special election, the Gubernator will take on all comers

Get article background

“THERE are no two ways about it”, declares Arnold Schwarzenegger with typical self-confidence, “California is back on track.” The question is what sort of track, both for the governor and for the voters, if, as expected, iron-pumping Arnold calls on June 13th for a special election to take place on November 8th.

Pleading an unco-operative legislature, the governor and his supporters want to go direct to the people to limit state spending; redraw legislative and congressional districts; make it harder for teachers to get tenure; and restrict political spending by public-employee unions. If the voters agree, Mr Schwarzenegger will surely be an invincible candidate for re-election next year. If those initiatives fail, the governor—his approval ratings already sliding because of his union-bashing—will suddenly appear lamed and vulnerable.

Is the reward worth the risk? Mr Schwarzenegger's big business and conservative Republican backers certainly think so: witness the money pouring in for relentless television commercials. They may be wary of the governor's wish to stop constituency gerrymandering, but that is a small price to pay for other initiatives that will bring a near-revolution in a political system controlled by Democrats. There are even those who dream that, given enough momentum from a November election, blue California, with its Democratic senators in Washington and its Democrat-dominated congressional delegation, will start turning red.

Take, for example, the “Live Within Our Means Act”. This will limit growth in the budget to the average growth of revenues over the past three fiscal years. If the Democrat-controlled legislature fails to approve a budget by the necessary two-thirds majority (always possible, given the size of the Republican minority), or if the governor decides to veto the budget, the previous year's spending levels will automatically continue. Moreover, if the governor decides in the course of the fiscal year that projected spending will exceed projected revenues, and if the legislature fails to correct the imbalance within 45 days, he will have the right to cut spending where and when he wants to.

Or take the initiative successfully proposed for the ballot by a long-time conservative activist, Lewis Uhler. This would require public-employee unions to have the written consent each year of individual members before any of their dues could be spent on political campaigns. The governor is not officially associated with Mr Uhler's campaign, but he is hardly likely to oppose it—after all, his falling approval ratings have coincided with a vociferous and well-financed campaign against him by unions such as the California Teachers Association, the California School Employees Association and the California Nurses Association.

If passed, those two initiatives alone will alter the political landscape. A third, the “Put the Kids First Act”, aims to extend the tenure requirement for California's schoolteachers from two years to

five. That may well make sense. Mr Schwarzenegger argues that the education system is in “desperate” need of reform, with the current tenure system “locking problem teachers into our schools, and making it nearly impossible for principals to make employment decisions based on the needs of students.” On the other hand, the teachers say that what the system is really in desperate need of is more dollars—and they accuse the governor of reneging, to the tune of $2 billion, on the money he should have given education under a previous initiative, Proposition 98.

Assuming the special election takes place (at a cost of at least $70m for taxpayers already burdened with a cumulative budget deficit of $6 billion), will the initiatives pass? Internal polling by the governor's team reckons that budget reform will attract 55% of the voters, the restriction on union spending will be supported by 68%, and the change to teachers' tenure by another 68%. As for the tricky anti-gerrymandering measure, that wins 71% approval.

At which point, sceptics will begin to scoff. Attempts to make the redistricting rules fairer have been tried several times, and have always failed. As for the other measures, the unions have every reason to fight them—and plenty of ammunition.

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UN Security Council reform

Curb your enthusiasm

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A useful proposal and an American rebuff

Get article background

REFORM of the United Nations Security Council advanced a longish step forward this week. The four countries with the most hope of winning a new permanent seat—Japan, Germany, India and Brazil—agreed to put off discussion of veto rights, the thorniest issue in a thicket of thorns, for another 15 years at least. The four are now circulating their "final" draft resolution on reform to the General Assembly's 191 members in the hope of attracting the necessary two-thirds support.

Yet America is unenthusiastic, to put it mildly. On June 8th the secretary of state, Condoleezza Rice, reminded the German foreign minister, Joschka Fischer, that the United States thinks expansion of the Security Council should come a definite second to other reforms, such as streamlining the UN's bureaucracy. Officials leapt to explain that this was not exactly a slap-down of Germany's hopes for a permanent seat. But lingering unhappiness with Gerhard Schröder, the German chancellor, is no doubt a subliminal factor.

Many, and not just Americans, still doubt that the council can ever be reformed. Except for the addition of four new non-permanent members in 1965, its composition has remained unchanged since the UN was set up in 1945. Regarded as anachronistic, unrepresentative and, increasingly, lacking in moral authority, it has evaded any attempt at real reform. Too many vested interests and national rivalries have been at stake.

The G4, as they are known, are proposing that the existing 15-member council of five veto-wielding permanent members (America, Russia, Britain, China and France, known collectively as the P5) and ten non-permanent members should be expanded to 25. First six new permanent members would be added, then four non-permanent ones, with special attention paid to including countries from Africa and Latin America.

As in their original draft, the four call for the new permanent members, who remain un-named, to have "the same responsibilities and obligations" as the current P5. But they now agree that the new permanent members' "right of veto" would not be exercised, at least until the whole veto question had been examined by the General Assembly 15 years after the planned reforms have come into effect.

Under the G4's three-stage plan of action, the resolution on expansion would be put to the General Assembly probably by the end of this month. The resolution already has the backing of some 25 co-sponsors, including France, but as it involves an amendment of the UN's Charter, it requires the approval of at least two-thirds of member states. Countries interested in obtaining a permanent seat would then be asked to submit their candidacies to a vote by a secret ballot of members.

The G4 would, of course, submit their own applications. Each has its own fierce opponent or

opponents. Pakistan cannot abide the idea of India getting permanent status; China is appalled that Japan, its old enemy, might join it at the top table; jealous neighbours oppose Brazil, already Latin America's most powerful nation; Italy, always feeling left in the cold by Europe's “big three”, has conducted a vigorous campaign against Germany.

None of these opponents, on their own, could block selection. But America's attitude will be critical. At present, the United States is officially supporting only the candidacy of Japan. Japan's bid, however, is linked to Germany's; and America has left little doubt where it stands on that. It is all rather disheartening for advocates of Security Council reform.

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States' rights

Up in smoke

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A Supreme Court ruling damages the constitution, as well as the sick

WITHOUT medical marijuana, Angel Raich insists that she would die. She smokes it every couple of hours. No other drug gives her the appetite to eat, or eases the pain she suffers from an incurable wasting syndrome.

Ms Raich is one of around 115,000 Americans who have registered as pot-smokers under state laws that allow people to smoke the drug for medical purposes and under a doctor's orders. In the 11 states that have legalised “medical marijuana”, many people grow it or, like Ms Raich, get it free from sympathetic carers.

But federal law bans it. In 2002, Ms Raich and Diane Monson asked a California court to stop the federal government prosecuting medical-marijuana smokers after federal agents seized six plants from Ms Monson's house. They won their case before the 9th Circuit Court of Appeals. But the government appealed, and this week the Supreme Court decided 6-3 in its favour.

The court did not deny marijuana's therapeutic value, nor did it strike down California's Compassionate Use Act, voted in by ballot initiative in 1996. The sick can go on using pot and the state authorities can go on letting them. But state laws will cease to protect users from federal prosecution. The court rejected Ms Raich's and Ms Monson's central argument—that Congress had no business regulating a weed both grown and consumed within a state's borders. In doing so, as the dissenting justices noted, it reverted to a more expansive view of Congress's power to impose national policy.

The constitution grants Congress the power to regulate interstate commerce. The Supreme Court has long interpreted this to include the regulation of even purely local activities, as long as they substantially affect such commerce. Going by this precedent, the government argued that California cannot opt out of parts of the 1970 federal Controlled Substances Act in order to allow the medical use of marijuana, a drug that act banned outright.

The government's main weapon was a Supreme Court ruling in 1942 in which subsistence wheat-farming fell under federal regulation because it affected the interstate wheat trade. Just as a farmer could depress the price of wheat by growing it for himself, so invalids cultivating their own marijuana could also depress the price; cheaper pot would spur demand, and federal agents trying to prosecute drug traffickers would be tripped up by California's law.

But did the Founding Fathers really intend Congress to regulate the local cultivation of a crop that is neither bought nor sold? Justice Sandra Day O'Connor, writing for the dissenters, argued that the ruling tramples on a central tenet of the federalist system—that the states may act as laboratories for economic and social experiments as long as they do not put other states at risk. The government failed to prove that medical marijuana affects the vast national illicit market for the drug. By contrast, in 1942, it convinced the court that wheat grown for home consumption could reduce the size of the national crop by 20%. And, crucially, the government had at least

allowed the farmers to eat some of the wheat themselves.

The court's two most zealous conservatives split on the ruling. Justice Antonin Scalia sided with the majority. But Justice Clarence Thomas, in a separate dissent, wrote that the ruling defines economic activity so broadly that it paves the way for Congress to regulate almost anything, including, “quilting bees, clothes drives and potluck suppers”. In practice, says Mark Moller of the libertarian Cato Institute, the ruling lets Congress impose questionable national policy by simply tying it to a broader regulatory scheme.

Sick smokers can take comfort in the fact that federal authorities carry out only a small proportion of drug busts. And, as Justice John Paul Stevens sympathetically suggested in his opinion, proponents can always lobby Congress or the executive branch to loosen federal drug law. But any relaxation looks extremely unlikely.

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New York's loos

Women take longer

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And those poor men who had to stand around waiting

“IF THERE was ever a bill I was afraid to be on the wrong side of, it would be this bill,” said Erik Martin-Dilan, a Brooklyn councilman whose district is 60% female. He was one of 50 council members who voted unanimously for a “potty parity” scheme, requiring many of the new and renovated buildings in New York City to have twice as many toilets for women as for men. A 1984 law had foolishly enforced equal numbers.

Michael Bloomberg, the city's mayor, signed it on June 6th. With this, New York City joins California, Minnesota, Pennsylvania, Tennessee, Texas, Washington and other jurisdictions in enacting “restroom equity” laws.

Flushing away complaints that the bill pandered to female voters, the mayor argued that it will not only speed women through toilets in sports arenas, bars, concert halls, convention halls and theatres (schools, restaurants, hospitals and municipal buildings are exempt), but also “reduce waiting-around time for their male companions.”

The law will apply only to new and extensively renovated facilities. The original proposal would have affected all buildings, but the NY Nightlife Association, among others, had strenuously objected. Stingy owners can still circumvent the new law, if they want to, by making their toilets unisex.

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Lexington

Minding about the gap

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America worries that it is becoming a class society. With reason

FOR a people who pride themselves on ignoring social class, Americans are suddenly remarkably interested in it. The country's two leading newspapers are winding up blockbuster series on the subject. The *New York Times*'s, in ten parts, is called, simply enough, “Class matters”. The *Wall Street Journal*'s offering, which will stretch to “at least seven parts”, is ostensibly about social mobility. But the series' conclusion is that social mobility has failed to keep up with widening social divisions: in other words, that class does indeed matter.

America, of course, is rife with social distinctions, but it has always prided itself on the assumption that talented people are free to rise to their natural level. The country's favourite heroes have been Benjamin Franklin types who made something out of nothing. (The 15th child of a candle-and-soap maker, Franklin retired a wealthy man at 42.) And its favourite villains have usually been Paris Hilton types, who combine inherited wealth with an obvious lack of talent. “The mass of mankind has not been born with saddles on their backs”, said Thomas Jefferson, “nor a favoured few booted and spurred, ready to ride them.”

There was more to this than self-flattery. Foreigners have also been struck by America's social fluidity. In the 1830s, Alexis de Tocqueville noted the average American's “hatred” of the “smallest privileges”. In the 1860s, Karl Marx remarked that “the position of wage labourer is for a very large part of the American people but a probational state, which they are sure to leave within a longer or shorter term”. In the 1880s, James Bryce noted America's talent for producing self-made

men. Joseph Ferrie, an economic historian at Northwestern University, has crunched the census numbers from 1850 to 1920 and discovered that there was something to all this: more than 80% of unskilled men in America moved to higher-paying occupations, compared with less than 51% in Britain.

Today's America gives every impression of being more classless than ever. Shops such as Restoration Hardware and Anthropologie cater for the mass middle class in much the same way that Woolworths once catered for the mass working class. And Ivy League students dress more like rappers than budding merchant bankers. But beneath this bland surface, social divisions are getting wider.

There is little doubt that the American social ladder is getting higher. In 1980-2002 the share of total income earned by the top 0.1% of earners more than doubled. But there is also growing evidence that the ladder is getting stickier: that intergenerational mobility is no longer increasing, as it did during the long post-war boom, and may well be decreasing.

This is hardly the first time that America has threatened to calcify into a class society. In the Gilded Age, in the late 19th and early 20th centuries, the robber barons looked like turning into an English upper class. But this time round it could be much harder to restore the American ideal of equality of opportunity.

The reason for this lies in the paradox at the heart of the new meritocracy. These days the biggest determinant of how far you go in life is how far you go in education. The gap in income between the college-educated and the non-college-educated rose from 31% in 1979 to 66% in 1997. But access to college is increasingly determined by social class. The proportion of students from upper-income families at the country's elite colleges is growing once again, having declined dramatically after the second world war. Only 3% of students in the most selective universities come from the bottom income quartile, and only 10% come from the bottom half of the income scale.

Clinging to privilege

The obvious way to deal with this is to use the education system to guarantee a level playing field. Improve educational opportunities for the poorest Americans, make sure that nobody is turned away from university on grounds of financial need, and you will progressively weaken the link between background and educational success. Alas, there are at least three big problems with this.

The first is that the schools the poorest Americans attend have been getting worse rather than better. This is partly a problem of resources, to be sure. But it is even more a problem of bad ideas. The American educational establishment's weakness for airy-fairy notions about the evils of standards and competition is particularly damaging to poor children who have few educational resources of their own to fall back on. One poll of 900 professors of education, for example, found that 64% of them thought that schools should avoid competition.

The second is the politics of education reform. The Democrats have much deeper roots in poor America than the Republicans; they also have much greater faith in the power of government. But they are too closely tied to the teachers' unions to push for sensible reforms, such as testing and school choice. Their notions of improvement seem limited to pouring in more money.

The third reason is the most powerful of all: that the educated classes still do such a superb job of consolidating and transmitting their privileges. This goes far beyond the *New York Times*'s “Sunday Vows” section, which lovingly chronicles the pairings of Princeton-educated bankers with

Yale-educated lawyers at the very top of the tree. America's college-educated class is now a much larger share of the population than it was.

The *New York Times* has supported its series on class with editorials condemning Mr Bush's tax cuts. But even if the paper's argument is correct, it ignores the basic fact that so many people have become so good at passing their educational privileges on to their children. That is not something that is going to go away with a mere tweak of tax policy; after all, they are only doing what comes naturally.

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Correction: California traffic

Jun 9th 2005

Our piece on California traffic (June 4th) claimed that San Francisco County has 2m drivers for 382,000 cars. Several readers have pointed out that San Francisco County's whole population is, in fact, only 744,230. The correct number of licensed drivers should have been 518,405. Sorry.

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Economist.com WORLD LATIN AMERICA

Bolivia

Corralling the gas—and democracy

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EPA

As the president is driven out, warning of "civil war", the politicians and social movements remain on a collision course

Get article background

CARLOS MESA is a good man who was not up to an impossible job. A former television presenter and Bolivia's vice-president, he stepped up to the top job in October 2003 after troops and police killed some 50 protesters, forcing his predecessor to quit. Crippling roadblocks and demonstrations have plagued his presidency. This week they culminated in a near-siege of La Paz, the seat of government, by tens of thousands of impoverished farmers, miners and workers. Mr Mesa's proudest boast is that no one has died in 19 months of turmoil. Yet he utterly failed to resolve the conflicts that give rise to it. Earlier this year, he twice offered to resign. On June 6th he did so once again, This time he seemed to mean it. Bolivia, he warned, is "on the verge of a civil war."

His exit hands the initiative to a Congress run by a discredited old guard of politicians who seem even less capable of calming the country. Assuming Congress accepts his resignation, the presidency passes to the president of the Senate, Hormando Vaca Díez. He is a rancher from the richer eastern province of Santa Cruz, which is opposed to everything the protesters want. He belongs to the Movement of the Revolutionary Left (MIR), a fossilised party that is none of those things.

It is not yet certain what Mr Vaca Díez's intentions are. He asked Congress to convene on June 9th, not in strife-ridden La Paz but in Sucre, a sleepy provincial town that is the seat of the judiciary. He has hinted strongly that he plans to govern, probably until the current presidential

term ends in 2007. If so, that could doom a faltering initiative by the Catholic church to negotiate a truce among Bolivia's warring interest-groups. On June 7th Mr Mesa begged Mr Vaca Díez to refuse the presidency, so that it could pass to the president of the Supreme Court, a less divisive figure whose only job would be to hold an election. Furious radical groups are bent on bringing that about by force.

The swarms of demonstrators are led by numerous “social movements”, which represent different constituencies, span various shades of radicalism and often mistrust one another. All claim to speak for the majority of Bolivians, who are both poor and of indigenous origin. They have two main demands, which they imagine will reverse 500 years of oppression by foreigners and fellow Bolivians: nationalisation of oil and gas, and a constituent assembly to rewrite the constitution.

Their critics allege that the social movements are themselves puppets of foreign interests seeking to replace Bolivia's democracy with a socialist dictatorship. At a meeting of the Organisation of American States in Florida this week, the United States' top diplomat for Latin America accused Hugo Chávez, Venezuela's populist president, of destabilising Bolivia, a charge the country denied.

The protesters' agenda riles Santa Cruz and three other eastern provinces, which pride themselves on being business-minded and, discreetly, on being lighter-skinned. Santa Cruz wants autonomy along with the popular election of provincial governors, who are now appointed by the president. The social movements are willing to concede both. The row is over whether autonomy will come before the constituent assembly, allowing Santa Cruz to shield itself from its decisions.

Most aspects of autonomy, such as empowering provinces to hire teachers, are relatively uncontroversial. The nub of the dispute is control of oil and gas, which lie in the richer eastern provinces, and of land. The social movements are determined to use the constituent assembly to redistribute the vast latifundia that belong to Santa Cruz's “oligarchy”. *Cruceños*, equally determined to stop them, have said that if the government does not call an autonomy referendum they will hold their own in August. That could split the country or provoke intervention by the army.

The government has neither exerted authority nor achieved compromise. Mr Mesa, though popular until recently, had no sway in Congress, which is dominated by parties that most Bolivians regard as corrupt and out of touch. In May Congress enacted a law that sharply raises taxes on multinationals that have invested $3.5 billion in Bolivia's gas and oil sector and forces them to sign new contracts. It was tough enough to chill investment but too lenient to forestall a new outburst of unrest. Its summary rejection by the social movements was a dismissal of Bolivia's democratic

institutions as well.

Bolivia cannot go on this way. Some 90 roadblocks in eight of the nine provinces virtually halted travel and trade; all but one road to La Paz was severed. Away from its centre, where police answered protesters' dynamite with tear gas, the capital was a ghost town. A petrol shortage drove most traffic off the road. Food, too, was in short supply, businesses were boarded up and there were signs of a bank run. On June 6th protesters briefly cut off the water supply to several neighbourhoods. In the city's prosperous south, panicky citizens were forming self-defence committees to fight off the indigenous mob they fear will descend on their enclave. In the east, Guarani Indians took over seven oilfields.

Less a country than a collision

If Mr Vaca Díez does take over, what next? Evo Morales, head of a coca-growers' union and of the Movement Towards Socialism (MAS), the biggest left-wing party, said “the people will resist” the “dictatorial class” that Mr Vaca Díez represents. Mr Vaca Díez thundered back that the “radicalism of the left leads to totalitarianism,” and vowed to uphold the constitution, which makes him president.

For Mr Vaca Díez, the presidency represents an opportunity to resurrect his moribund party. Just how he would use it is uncertain. He could jettison Mr Mesa's self-imposed ban on the use of lethal force against protesters. Or he could coax them off the streets by bowing, or appearing to bow, to their main demands. There is speculation that Mr Vaca Díez and Congress might themselves nationalise oil and gas. That could deflate the protests, and give MIR and other old-style parties a chance of survival. Entrepreneurial Santa Cruz is addicted to subsidies and might be happy to extract jobs and rents from public companies. Mr Vaca Díez's presidency would also mean the postponement of Santa Cruz's divisive referendum.

It is possible, but not yet likely, that the more moderate among the social movements will strike a deal. After three weeks of protest, there are signs of fatigue among the social movements. In El Alto, a slum city overlooking La Paz, fights have broken out between radicals and residents whose jobs and business are suffering from incessant roadblocks. The protesters “can't keep mobilising for much longer,” says Álvaro García Linera, a sociologist in La Paz.

So far, though, no one is swerving from collision course. As *The Economist* went to press, protesters were heading towards Sucre, where they are expected to try to block Congress from meeting. That would deepen the chaos and leave Bolivia effectively without a government. The army is on maximum alert. Juan Ramón Quintana, a specialist in the armed forces, says they have neither the desire nor the strength to stage a coup. They are prepared to intervene on the order of the president if violence runs out of control or the country threatens to break up.

Bolivia's best option is the one favoured by almost everyone except, apparently, Congress: a speedy general election under the interim presidency of the top judge, Eduardo Rodríguez. That, along with elections of nine provincial governors, would change the political landscape. But Bolivia's bitter disputes over resources, rights and race would still fester. They can be resolved only by negotiation, compromise and the creation of strong institutions. So far, Bolivians have shown little talent for any of these.

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Economist.com WORLD LATIN AMERICA

Peru

Survivor Toledo

Jun 9th 2005 | LIMA
From The Economist print edition

Why Peru's president has avoided his neighbours' fate

AFP

Unpopular but not endangered

Get article background

HE HAS long been Latin America's most unpopular president, his poll ratings since 2003 fluctuating between 8-14%. In the past two months, less reviled rulers have been toppled by protests in neighbouring Ecuador and Bolivia (see article). Yet in Peru, Alejandro Toledo not only survives. He has just wrapped up a 15-day trip to the Middle East and China with something of a spring in his step.

Last month, Peru's Congress decided not to launch an impeachment investigation into claims that Mr Toledo's party had falsified signatures to register for an election in 2000. His government also extracted an apology from Chile for its sale of arms to help Ecuador begin a brief border war with Peru in 1995. These victories reinforce the conviction of most pundits that Mr Toledo will survive to complete his term in July 2006.

This has not always seemed likely. Corruption claims have swirled around his presidency. Mr Toledo's former lawyer and intelligence chief is in jail on charges of having taken bribes. The president is the daily object of derision in Lima's fiercely partisan media. Polls show that most Peruvians think the country is on the wrong track.

So why has Mr Toledo survived? First and foremost, because he has presided over four years of economic growth averaging 4.8% a year. Inflation is low, the currency is strengthening, exports are booming and many ordinary Peruvians are starting to feel a bit better off.

Second, in Peru, a bigger country, social movements are more dispersed and less radical than in Bolivia and Ecuador. Around 45% of Peruvians are of Andean Indian descent (including Mr Toledo himself). But most Peruvians consider themselves to be *mestizos* (of mixed race). From 1980-93, indigenous Peruvians bore the brunt of a vicious Maoist insurgency and its repression. The memory induces caution.

Thirdly, when faced with big protests, Mr Toledo has backed down. He scrapped the privatisation of two electricity companies. When his followers pushed for more government jobs, he dropped several technocrats from his cabinet in favour of party hacks.

Compared with his neighbours, Mr Toledo has also been more fortunate in his opposition. Having recovered democracy in 2001, after a decade of authoritarian (and corrupt) rule under Alberto Fujimori, most Peruvian politicians have proved reluctant to jeopardise it. All but a few gadflies have shied away from calling for Mr Toledo's impeachment. Alan García, a populist former (and would-be) president, came closest. He backed a general strike last year. It failed, and Mr García faded in the polls. Now, doubtless to Mr Toledo's relief, most politicians have their sights set on a presidential election next April.

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Economist.com WORLD NORTH AMERICA

Quebec politics

After Landry

Jun 9th 2005 | MONTREAL
From The Economist print edition

A surprise contest to lead separatism

Get article background

IF ANY politician was to resign in Quebec, the betting would have been on the premier of the French-speaking province, Jean Charest. After two years in government, the latest poll put his Liberal party 19 points behind the opposition, the separatist Parti Québécois (PQ), and showed four out of five respondents unhappy with Mr Charest. That makes him Quebec's most unpopular leader since polls began.

By contrast, the PQ's leader, Bernard Landry, seemed to be riding high. Rivals had retracted calls for him to step down after he lost a provincial election in April 2003. In the polls, support for an independent Quebec—his party's *raison d'être*—has climbed to 54% from its usual level of around 40%. The separatist cause has benefited from public disgust at a scandal involving kickbacks from a federal scheme to promote Canadian unity in Quebec.

But it was Mr Landry, not Mr Charest, who on June 4th abruptly quit. A proud political veteran, Mr Landry had wanted at least 80% support in a routine vote on his leadership at a party policy convention. Had he made this explicit, doubtless he would have got it. As it was, he received the support of 76.2% of delegates. A leader “needs solid, indisputable, massive support,” he said in his resignation speech.

His opponents within the PQ come mainly from a vigorous hardline minority known as *les purs et durs*. They were frustrated by Mr Landry's pragmatism, and especially by his refusal to promise an immediate referendum on secession following a PQ election victory. Mr Landry's is not their first scalp. The party's most popular leaders, René Lévesque, its founder, and Lucien Bouchard, Quebec's premier from 1996 to 2001, were ground down by their sniping and scheming. “It makes me sad the way our party treats its leaders,” said Pauline Marois, one of its senior figures.

Not so sad as to stop Ms Marois from deciding to seek the leader's job. The frontrunner—though he has yet to announce his candidacy—is Gilles Duceppe, who heads the Bloc Québécois, the party's sister organisation at federal level. Mr Duceppe, a steady if humourless leader, is the most popular sovereigntist in Quebec.

Since 1985, the PQ's leaders have been elected unopposed. Not on this occasion. The contest will begin with an argument over its timetable. Mr Duceppe's supporters want to delay the leadership convention, perhaps until autumn 2006. That would give them time to prepare their man's switch from Ottawa to Quebec City. Ms Marois, a warmer figure whose career has been spent in the province, wants a new leader in place by winter.

Either way, Paul Martin, Canada's prime minister, will hope that Mr Duceppe enters the race. He has promised a federal election before next March. *Sans* Mr Duceppe, the Bloc would be a less formidable foe. But with him, the Parti Québécois would be a tougher competitor for Mr Charest.

The next resignation in Quebec might be his.

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Economist.com WORLD LATIN AMERICA

Sport in Mexico

Latin Lovers for all the family

Jun 9th 2005 | SAN LUIS POTOSÍ, MEXICO
From The Economist print edition

Wrestling moves upmarket

FEW people prefer fool's gold to the real thing, or cubic zirconium to diamonds. But when it comes to professional wrestling, outrageous fakery is central to the appeal. At least so it is in Mexico. *Lucha libre*, as it is called, is the country's second most popular sport after football, drawing over 7m a year to live matches, with many more watching on television. It is now enjoying one of its periodic revivals, this time by marketing itself as family entertainment.

In *lucha libre*, throws and open-handed slaps may look alarming but are calculated to cause minimum damage. A three-second pin wins a match. But the referee—who sometimes joins the fight—frequently stretches a two-second count long enough for the pinner to let the pinned escape. To add to the theatre, the combatants wear masks and boast names such as Molotov or Latin Lover. They may be accompanied by glamorous women or costumed midgets. Contestants routinely burst from the ring to grab chairs from the audience (typically some 5,000 chanting fans) with which to smash their opponents.

The sport's heyday was in the 1970s, when a string of camp movies made wrestlers such as The Saint cult heroes. Attendances have fallen since then, apart from a spike in the 1990s. Now, innovative promoters such as Antonio Peña Herrada, himself a former wrestler, are trying to broaden the fan base. Mr Peña has set up a new tour, called AAA, to rival the traditional World Council of *Lucha Libre*. His bouts attract middle-class fans. Rather than relying on dedicated wrestling arenas, his company rents other venues, such as basketball courts, for its fights.

Mexico City's coliseum, a traditional venue, is typically only half-full for twice-weekly matches, admits the World Council. Mr Peña claims that his 30 matches a week across the country are usually sold out. A fight this month in San Luis Potosí, an industrial town north-west of Mexico City, was packed to the gills with family groups spanning three generations as well as gaggles of teenagers.

Mr Peña is also trying to expand *lucha libre* outside Mexico. The sport's popularity in the United States is growing. Thanks to a handful of Japanese wrestlers in Mexico, Mr Peña has managed to sell television rights in Japan, as well as staging the occasional match there. It may look like a free-for-all, but nowadays every move in the expansion of *lucha libre* is as carefully planned as those in the ring.

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Correction: crime in Mexico

Jun 9th 2005
From The Economist print edition

In a story last week ("Lessons from Juárez") we wrote that "Ricardo Sepúlveda, an Interior Ministry official, points out that 97% of murders in Mexico go unpunished". In fact, Mr Sepúlveda pointed out that independent academic research shows that 97% of all crimes go unpunished. Apologies. This error was corrected online.

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America and the Koreas

A lull in insult diplomacy

Jun 9th 2005
From The Economist print edition

North Korea hints that it may return to nuclear talks. But is that progress?

Get article background

WHEN America's president, George Bush, receives his South Korean counterpart, Roh Moo-hyun, for talks on June 10th, you can bet that North Korea will be parsing Mr Bush's every sentence just as closely as America's intelligence analysts have been scouring satellite images of sites in North Korea for signs of an imminent nuclear test. The first hint that North Korea could be preparing to end its year-long boycott of nuclear talks with America, South Korea, Japan, China and Russia, as it suggested this week that it might, came earlier in the month: a North Korean foreign ministry spokesman noted approvingly that Mr Bush had spoken of North Korea's leader as “Mr” Kim Jong Il—at last a welcome touch of civility, he suggested.

Why so much attention to terms of less than endearment? Mr Kim had lately taken to blaming his absence from the six-way nuclear talks on America's rudeness (this from a regime that wrote the book on mouth-frothing invective against foreigners). He was said to have taken umbrage earlier this year when America's secretary of state, Condoleezza Rice, referred to North Korea as one of several remaining “outposts of tyranny” around the world. In fact, Mr Kim had been hoping that Mr Bush, who has taken a tough line on North Korea's illicit nuclear activities, would fail to be re-elected last November and so was already in a sulk.

This month's unusual praise for Mr Bush came a day after his vice-president, Dick Cheney, had been dismissed by North Korea as a “bloodthirsty beast” for suggesting that Mr Kim was running his country irresponsibly and letting its people suffer for it. Was this latest round of comparative

insult diplomacy a face-saving way for Mr Kim to return to the bargaining table?

American officials are suspicious. North Korea has given no date for its return, leaving them fretting that Mr Kim's real purpose was to undercut the firm message Mr Bush hoped to press upon the South's Mr Roh this week in Washington over lunch: that America's patience with North Korea's stalling tactics is wearing thin, and that more pressure needs to be applied to separate Mr Kim from the nuclear bombs he claims to possess.

If that is indeed what Mr Kim is up to, he chose his moment cleverly. Although America and South Korea see eye to eye in their wish to see Mr Kim disarm, they have increasingly seemed to disagree on tactics. Like China, which has been dangling inducements, such as the prospect of a visit to North Korea by President Hu Jintao, South Korea is loth to apply any serious pressure, least of all sanctions, to bring the recalcitrant Mr Kim into line. It has preferred to overlook recent actions, including his increasingly unvarnished claims to be a nuclear power just like America. And it has cast doubt in public on America's concerns that North Korea may be readying that bomb test.

South Korean officials have told North Korea instead that, if talks resume, it can expect a more generous compromise offer in return for disarmament—presumably of even more massive aid and investment—than the South put on the table at the last round of nuclear talks a year ago. Meanwhile investment from South Korean and Chinese firms in North Korea has picked up, and cross-border trade is growing steadily—hardly a way to encourage North Korea to think that giving up its nuclear ambitions is the only way to avoid international isolation.

Earlier hints by Ms Rice and others, including senior Japanese officials, that if the six-way talks got nowhere for much longer, the issue should be discussed in the UN Security Council (North Korea's expulsion of inspectors and withdrawal from the Nuclear Non-Proliferation Treaty were referred to the council in 2003), have likewise fallen on deaf ears in South Korea. But North Korea may be taking no chances. At the first hint of resumed talks, even America had to back off a little: an unnamed senior defence official who claimed last week that referral to the council was only a matter of weeks away was quickly corrected by Ms Rice.

America has been stepping up the pressure in other ways, however. It recently announced the deployment of stealth fighters to South Korea for exercises that have no formal completion date. It also suspended searches for the remains of American servicemen missing in action since the Korean war (the searches net North Korea much-needed hard currency, while putting American personnel in harm's way should push ever come to shove). Yet such moves seem to alarm South Korea more than they deter the North.

America is also trying to step up the monitoring and interception of cargoes that might help North Korea further its weapons programmes, as well as finance them through trade in drugs, counterfeit dollars and the like. But for North Korea to feel the pinch, both China and South Korea would have to be prepared to crack down harder on such illicit activities than either has shown any inclination to do so far—another tricky subject for Mr Bush to raise with Mr Roh.

Dealing with Mr Kim may seem difficult enough, but America's problem is not just working out how to halt and reverse North Korea's nuclear ambitions, argues Mitchell Reiss, who was until earlier this year Mr Bush's director of policy planning at the State Department: it needs to conduct its diplomacy on the issue in a way that preserves good relations with both South Korea and Japan, retains the support of China and reinforces America's stature in the region by showing it can handle this difficult security threat. And while America attempts to juggle all those aims, Mr Kim for his part will be trying to make the effort just as hard as he possibly can.

Economist.com WORLD ASIA

South Korea and Japan

America loves one of them more

Jun 9th 2005 | SEOUL AND TOKYO
From The Economist print edition

Dealing with North Korea has widened the rift between South Korea and Japan

Get article background

JUNICHIRO KOIZUMI gets to throw a baseball around and take chummy photos at George Bush's ranch in Crawford, Texas. Roh Moo-hyun makes short trips to Washington for awkward meetings at the White House, such as the one that he was due to have with Mr Bush this week. Japan and South Korea are both close allies of the United States, but only the America-Japan alliance is running smoothly these days. Mr Bush and his pal Junichiro share a common view of North Korea. Mr Roh, by contrast, has upset both countries by consistently excusing the North's behaviour. The quarrel has exacerbated tensions between Japan and South Korea, which are also feuding—again—over history.

South Korea's public has been in an uproar since it learned of private comments by a Japanese deputy foreign minister, Shotaro Yachi. During a meeting with South Korean MPs in mid-May, Mr Yachi told them that Japan is reluctant to share American intelligence about North Korea with the South, because America does not trust South Korea as much as Japan. Whatever truth there is in the intelligence-sharing claim, Mr Yachi's point about trust was clearly on the mark, which is precisely why it enraged so many South Koreans.

Relations between the neighbouring democracies had already been strained lately by rows over history, including a renewed spat over Dokdo: a rocky set of South Korean-controlled islets that Japan claims as part of its territory (calling it Takeshima). Since earlier this year, when Shimane prefecture on Japan's west coast passed an ordinance celebrating Takeshima Day, South Koreans have been defending their right to the rocks. A pair of South Korean telecoms firms have extended mobile-phone service to Dokdo. South Korean T-shirts laying claim to the islets come in small enough sizes to fit a four-year-old.

South Korean tempers have been stoked further by Japan's latest round of government-approved history textbooks, which to varying degrees whitewash the Japanese army's practice of coercing “comfort women” from Korea and elsewhere into sex during the second world war.

Many Japanese have been slow to grasp the scale of South Korea's recent flare in anti-Japanese sentiment. That is partly because April's anti-Japanese riots in China dominated the news. But it is also because South Korean food, culture and entertainment have been in fashion in Japan since the two countries co-hosted the World Cup in 2002.

South Koreans feel rather differently about bilateral relations. They tell pollsters that Japan is a bigger threat to peace on their peninsula than either America or North Korea. Yoichi Funabashi, a columnist for Japan's centre-left *Asahi Shimbun*, points out that the well-known “Korean Wave” of pop culture exports means different things in different places. In Japan, it connotes images of Yong-sama, a South Korean drama star beloved by middle-aged Japanese women. But in China, it takes the form of South Korean films about history—including events as long as a century ago—

that show a Japanese track record of wickedness towards its neighbours.

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China's armed forces

Casus belli

Jun 9th 2005 | BEIJING
From The Economist print edition

Is China the new enemy?

Get article background

Reuters

Who's worrying?

NEVER one for diplomatic niceties, America's defence secretary, Donald Rumsfeld, roiled trans-Pacific waters on June 4th when he accused China of increasing its military expenditures at a time when it faces no serious military threats, thereby destabilising the region and raising doubts about its future intentions.

Speaking at an Asian security conference in Singapore organised by the IISS, a think-tank, Mr Rumsfeld earned a blunt dismissal from China's foreign ministry. His remarks also inspired grumblings from other regional participants. That reaction may be the cause for the last-minute delay in the release of an annual Pentagon report on Chinese military capabilities. The report was originally scheduled for release as *The Economist* went to press, but has now been quietly put on hold—and not for the first time. Assessing how real a threat to America China's rise poses is said to have turned into a lively internal debate between a hawkish Pentagon and other government agencies, who are wary of upsetting relations with China.

Citing one finding of the report in Singapore, Mr Rumsfeld said China's military spending had risen to be the third highest in the world, after America's and Russia's. In response, a Chinese foreign ministry spokesman noted that America's own defence spending last year exceeded $450 billion, or nearly 18 times as much as China's total of $25 billion—though according to earlier American estimates, Chinese defence spending is closer to $60 billion.

The tone Mr Rumsfeld struck in Singapore marked a departure for a Bush administration that for the past several years had been relying on China for active assistance in the management of the North Korean nuclear dispute and for tacit approval of its far-ranging actions in its global war on terror. It marked a return to something much closer to its original posture towards China. On taking office in early 2001, hawks at the Pentagon put China squarely in their sights.

Top officials, including Mr Rumsfeld, spoke menacingly of a potential China threat. In this they were taking cues from Mr Bush himself, who during his first election campaign had called China “an espionage threat” and “a competitor, not a strategic partner.” Mr Bush added that China's conduct was often “alarming abroad and appalling at home.”

But things shifted dramatically after the September 11th terror attacks against the United States.

While America was preoccupied with Afghanistan, and later Iraq, China took advantage of Washington's new focus to minimise tension with the superpower and enhance its standing and its influence with its Asian neighbours. China, in the words of Dr Jonathan Pollack, professor of Asian and Pacific studies at America's Naval War college, “learned a lot during this period about staying out of Washington's strategic headlights.” Now, however, those headlights seem pointed China's way again.

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Japan

Snail mail

Jun 9th 2005 | TOKYO
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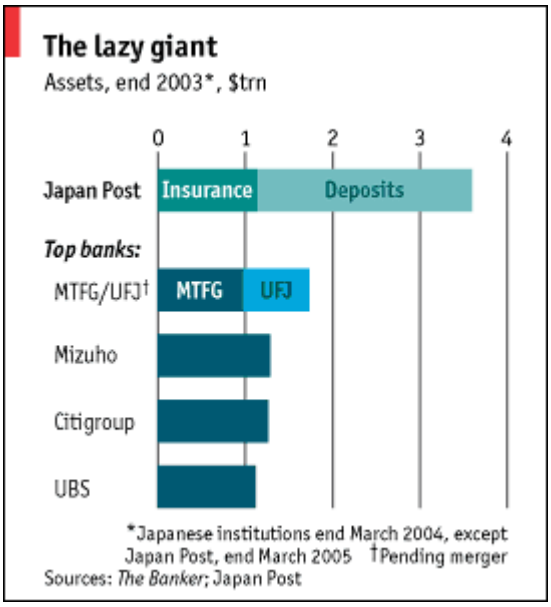
Junichiro Koizumi may soon achieve his lifelong ambition—up to a point



Get article background

LONG before he became prime minister in 2001, Junichiro Koizumi wanted to privatise Japan Post. This anti-competitive monstrosity not only delivers the mail and offers over-the-counter services in every corner of the archipelago, but also functions as a bank and insurance provider for Japanese households. It is thus sitting on ¥386 trillion ($3.6 trillion) in assets, making it the world's biggest financial institution. After battling for decades as an MP, and four years as prime minister, Mr Koizumi is now close to getting a vote on a bill that will—eventually—turn it over to the private sector. The bill is still being bandied about in parliament, but most observers expect it to pass sometime this summer.

Japan Post's massive pool of misallocated savings is an important reason why the economy remains heavily influenced by the state. Privatise it and get out of the way, Mr Koizumi has long argued, and Japan will regain some of its dynamism. Unfortunately, both for Mr Koizumi and for Japan's economy, such a shift would also be a blow to the ruling Liberal Democratic Party. Not only are postal workers an important voting block, but the money that Japan Post has funnelled to state-backed and politically connected businesses—such as construction—has helped to keep rural voters sweet on the LDP.

So it is no wonder that the LDP has resisted its leader's primary policy goal for so long. But in the end, Mr Koizumi and his party seem ready to do the three things that Japanese politicians do best:

compromise, go slow, and place surface before substance.

Mr Koizumi has approval ratings below 50%, but he is still more popular than his own party. So one trick he has often used is to threaten a general election if the LDP rejects an important reform. Until now, this has always been a weak threat. But given how much of his reputation Mr Koizumi has staked on postal reform, many LDP members are wary of challenging him this time, especially since the opposition Democratic Party of Japan has made inroads in recent elections.

Besides, Mr Koizumi's term in office will end in September 2006. And the watered-down postal plan, which will start to take effect in April 2007, will not lead to real privatisation until 2017. Mr Koizumi will probably get his “reform”; the LDP will hang on to the status quo.

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Economist.com WORLD ASIA

Australia

Trimming awards

Jun 9th 2005 | SYDNEY
From The Economist print edition

John Howard prepares to take on an archaic industrial-relations system

Get article background

AN ERA lasting 100 years in Australia's wage-fixing history finally closed on June 7th, when the Australian Industrial Relations Commission (AIRC) delivered what is likely to be its last ruling on the country's minimum wage. Under reforms planned by the conservative coalition government, led by John Howard, the commission's regulatory role is about to give way to a more market-driven system, which will also allow workers more power to negotiate their own wages with employers.

Reform of Australia's labour market has been Mr Howard's most frustrated priority since he first came to power in 1996. His opportunity finally arrived when he unexpectedly won control of the Senate, the upper house of federal parliament, at his fourth election victory last October, the first time any government has controlled both houses in almost 25 years. When the new Senate first meets in July, it will no longer be controlled by an opposition of Labor and small parties which had voted down earlier government bids to tackle a highly regulated system reaching back to 1904.

The government's chief targets were a centrally determined method of fixing wages under the AIRC, and myriad federal and state “awards” for separate industries—everything from clerical workers to hairdressers—each containing a multitude of stipulations over working conditions.

The former Labor government, whose reforms in the 1980s have underpinned much of Australia's economic boom of the past 14 years, gingerly started to unshackle the labour market. It introduced a direct system of enterprise bargaining between unions and employers, but held back from anything bolder because of its historic union links.

The Howard government went further by allowing individual employees to strike their own deals with bosses through Australian Workplace Agreements (AWA), before the Senate blocked more changes. Only about one-fifth of the Australian workforce is now covered by awards, compared with more than two-thirds in 1990; the changes have been widely credited with helping to boost Australia's remarkable growth in labour productivity since then. Yet Peter Hendy, chief executive of the Australian Chamber of Commerce and Industry, a business group that has been lobbying for deeper change, argues that union power still permeates the labour market, through industries such as mining, construction and retailing, whose awards tend to set benchmarks elsewhere.

The planned changes Mr Howard announced last month should go to parliament in August. They contain four key features designed to strengthen the power of employers to do their own pay deals, unburdened by regulation.

The AIRC will lose its wage-fixing role to a new body called the Fair Pay Commission, which will be expected to base its decisions mainly on their overall economic impact. The number of conditions set in awards will be pared down. Businesses that employ up to 100 people, about two-thirds of

Australia's enterprises, will be free to sack workers without having to comply with cumbersome unfair dismissal regulations introduced under Labor. Finally, Mr Howard plans to create a single national industrial relations system from the six that the central government in Canberra now shares with the states.

Mr Howard's critics say he could have done much more, axeing the awards system altogether and putting in place reforms that might actually cut the minimum wage, which is one of the world's highest, both in absolute terms and as a percentage of median wages. But even the planned list will be tough, especially the last item. The five states that retain their own systems (Victoria ceded its powers to Canberra in 1996) guard them as a test of states' rights against encroaching central government power. When Mr Howard asked the state leaders (all Labor) on June 3rd to give up their powers, they told him no. A constitutional battle in the courts could push the start for Mr Howard's brave new industrial world well into 2006.

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India

Advani and Jinnah

Jun 9th 2005 | DELHI
From The Economist print edition

Praising Pakistan's founder does not go down well with Indian hardliners

Get article background

WHEN Lal Krishna Advani, the 77-year-old president of India's Hindu-nationalist Bharatiya Janata Party (BJP), went to Pakistan at the beginning of this month, he presumably hoped to help transform his image from anti-Pakistan hardliner to that of moderate peace-loving political leader.

All went well at first. He seemed to be successfully contributing to the continuing rapprochement between India and Pakistan, which was initiated by India's former BJP government when Mr Advani was home minister. But then generous remarks that he made about Muhammad Ali Jinnah, the Muslim founder of Pakistan, sparked the latest political crisis to hit the BJP since the party was unexpectedly swept from power in a general election a year ago. The crises, which have prevented the BJP mounting sustained opposition to the government led by the Congress Party, have all centred on whether there is more vote-winning potential in the strong *Hindutva* ("Hinduness") policies that Mr Advani used to espouse, or whether the party should move with him nearer the centre of Indian politics.

Mr Advani established himself politically in 1992 when he led a march that culminated in the demolition of a 16th-century mosque on a disputed religious site in Ayodhya, sparking widespread riots and creating a focal point for Hindu extremism. After that, he was regarded as a scourge of India's 12% Muslim minority and a staunch enemy of Pakistan. Now, though, he wants to be seen as the natural successor to Atal Behari Vajpayee, a more moderate 80-year-old BJP leader who was prime minister until last year.

Unfortunately, Mr Advani's emotional visit to Pakistan (including the city of Karachi where he was born) was too much for hardliners in the BJP and for some sections of the Sangh Parivar (the Hindu "family" of organisations) that tried only recently to oust him on account of his age.

He upset some BJP leaders by saying (though he has said it before) that the day the Ayodhya mosque was demolished was one of the saddest of his life. Then a Sangh Parivar leader from the ideological arm of the family, the Vishwa Hindu Parishad (VHP), described him as a *gaddar* (traitor) for ascribing "secular" credentials to Mr Jinnah, a hate figure for Hindu nationalists for his role in partitioning the country in 1947.

Mr Advani suddenly found himself isolated on the Jinnah issue, with virtually no BJP leader coming to his defence, so he resigned as party president on June 6th. This sparked several days of frantic political activity as party leaders slowly rallied round to persuade him to stay. But even his closest colleagues were reluctant to upset hardline organisations such as the VHP by openly supporting him. Mr Advani eventually seemed to be softening his line on resignation, when BJP leaders agreed (as *The Economist* went to press) to recognise his Pakistan trip as a success and allow for the context of his remarks about Jinnah.

Mr Advani is also leader of India's parliamentary opposition. It is even possible that, released from his party duties, he could emerge as a stronger politician. But, having spent his political career as an organisational expert rather than as a popular politician, he seems to have few close personal loyalists—and he could be destabilised by a new BJP president, as well as by sniping from hardliners. There are several second-rung politicians in the BJP who are anxious for promotion. Still, none of them quite looks like an alternative leader. The former firebrand Mr Advani could be around for a while yet.

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Iran's presidential election

Will it make any difference?

Jun 9th 2005 | TEHRAN
From The Economist print edition

AP

Turnout will be low and apathy is rife, but Iran's presidency still matters quite a bit

Get article background

DISGRUNTLED city-dwellers prepare to boycott a poll that, they fear, will only underline their powerlessness to influence the nation's destiny. The eight contenders elicit more comment for their grooming and dress sense than they do for their campaign pledges. The run-up to the first round, on June 17th, of the contest to replace Muhammad Khatami, Iran's reform-minded president since 1997, is generating less enthusiasm than the national football team's bid to reach the 2006 World Cup finals (which it achieved this week in a frenzy of Iranian joy by beating Bahrain).

Have Iranian elections, which the Islamic Republic once paraded as evidence that it is not a dictatorship, degenerated into a sham? It looked that way on May 22nd, when Mostafa Moin, the only well-known reformist candidate, was barred from running by the Council of Guardians, the same hardline body that disqualified more than 2,000 reformists from competing in last year's general election.

But Mr Moin was reinstated, thanks to the supreme leader, Ayatollah Ali Khamenei. Never mind that his intervention may have been unconstitutional or that the ayatollah is suspicious of reform; the poll is now being contested by all major political factions—though not by women, who were disqualified en masse. Now, Mr Moin's allies say, there is no need for voters to stay away from the polling stations.

Muhammad Ghoochani, the young reformist who edits *Shargh*, Iran's most intelligent daily,

agrees. In a recent editorial, he pointed out several happy differences between the current campaign and previous ones. The hardline judiciary is being a bit nicer to dissident journalists, satellite dishes that pick up anti-regime broadcasts are not being confiscated, and coverage by the conservative-run broadcasting monopoly has been fairly even-handed. Most important of all, Mr Ghoochani says, conservative candidates know that they stand a chance only if they speak the reformist language of “democracy, a free economy [and] the participation of women and young people”.

A stroll around Tehran, the capital, is a surreal instruction in political reinvention. In one poster, a grinning conservative, Ali Larijani, appears under a snippet of verse by a dissident poet whose prestige Mr Larijani, a former broadcasting boss with a bent for airing Stalinist “confessions” on the screen, helped destroy. Former members of the Revolutionary Guard, now seeking the presidency, play down their military records, brandish questionably learned doctorates and appear in computer-enhanced photographs that hide their pates if they are bald and their turbans if they are clerics. Job creation and national rejuvenation are favourite themes. Hardly anyone, a hardline ayatollah has complained, mentions Islam.

The spin is meant to attract a youthful electorate that has little love for revolutionary ideals but has worries aplenty about employment and prospects. The government recently announced that economic growth had dropped to 4.8% in the fiscal year to March (from 6.7 % the previous year), raising fears that there will be even fewer jobs for the 1m-odd Iranians who will enter the labour market this autumn.

Which candidate stands to benefit from this combination of jitters and indifference? The conventional wisdom is that Akbar Hashemi Rafsanjani, who has reinvented himself as a cautious democrat since serving as president in the undemocratic early 1990s, is the front-runner, and that Muhammad Ghalibaf, a former police chief, has made inroads with expensive advertising and a support base in the Revolutionary Guard. A low turnout would increase the likelihood of a two-man second round (to win in the first, you need more than half of the votes cast); the dull Mr Moin, a former higher education minister, is struggling to get that far.

The eventual winner may find the trophy tarnished. As your correspondent's barber observed during a trim this week, “this country doesn't need a president; everyone knows who is in charge.” During his eight-year stint, the charming but ineffective Mr Khatami failed to prise away powers from Mr Khamenei and the rest of the conservative establishment. The presidency suffered as a result.

Who will really be in charge?

It is an open secret that Mr Khatami has little influence over strategic issues, such as Iran's campaign to retain its controversial nuclear programme and avoid referral to the UN Security Council for breaching the terms of its safeguards agreement under the Nuclear Non-Proliferation Treaty. Mr Khamenei's largesse towards Mr Moin has further underscored the clout that the supreme leader enjoys from his pedestal of unaccountability. Of the eight candidates, Mr Rafsanjani alone has the experience and influence to challenge Mr Khamenei and, perhaps, restore lustre to the office.

Some reformists regret that Mr Moin did not reject Mr Khamenei's gesture and stand aside from a flawed process. One such reformist is Iran's most famous political prisoner, Akbar Ganji. Earlier this month, after being temporarily released for medical treatment, he called on Iranians to boycott the poll and said that the supreme leader, who was appointed by a college of clerics, should put himself up for election. Mr Ganji also derides timid reformists; after the poll, he says, “they will go into a room and not raise a peep”.

To some, Mr Ganji is a hero, whose fearless exposure of extra-judicial murders that took place during Mr Rafsanjani's last tenure was the most thrilling event of the Khatami presidency. Others point to Mr Ganji's fall from grace, and to Mr Rafsanjani's comeback, to support their view that it would be folly to take on the establishment directly.

Mr Ganji argues that change cannot happen in the current system, but admits that boycotting the polls is the closest that most Iranians will come to civil disobedience. Gone are the heady days of Mr Khatami's first term, when brilliant reformists thrilled crowds and anything seemed possible. Except for Mr Ganji and a few others, the brilliant have been silenced and the reformist bandwagon has slowed, weighed down by conservatives who may not believe the slogans they utter.

But Mr Ghoochani detects a “Tehran spring” in the air. The current, odd, election campaign does illustrate some important and encouraging truths. The Islamic Republic is a slightly nicer place than it was when Mr Khatami was elected; it should carry on getting nicer, albeit slowly, whatever the result on June 17th. Second, the Islamic Republic is an ideological state in name only. The election posters tell you that its Islamist zeal has faded.

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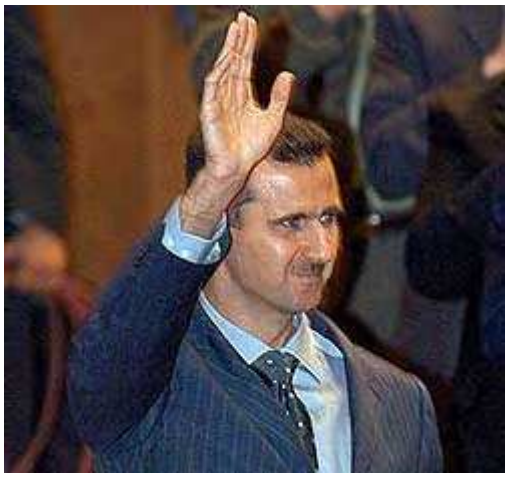
Syria

Still Baath-plugged

Jun 9th 2005 | DAMASCUS
From The Economist print edition

No sign yet that Syria's moribund rulers will change of their own accord

AP



Bashar and the tortoises

THE contrast of vibrant Lebanon (see article) with neighbouring, decrepit Syria could hardly be greater. The tenth congress of the Arab Socialist Renaissance Party, better known as the Baath, opened to the strains of an anthem heralding the rise of glorious Arab youth. But the only person who looked remotely young among the 1,200-odd delegates, mostly in suits and ties, was Syria's Bashar Assad, whose age is close to the Baath's 42-year span of rule.

Back in March, Mr Assad, whose father Hafez died five years ago after 35 years of iron-willed but deadening dictatorship, promised that the congress would herald a leap forward to reform. In the event, it seemed likely to produce an arthritic shuffle. “Going at tortoise pace in the right direction is a hundred times better than leaping like a rabbit the wrong way,” said Mr Assad lamely.

Government apologists declared real progress, noting, for instance, that privatisation has been removed from the list of Baathist taboos. Some of the old guard did step down, involuntarily or not, including Abdel Halim Khaddam, vice-president for the past two decades. Younger faces, including many from Mr Assad's inner circle, looked set to dominate the party's reconstituted executive committee.

Proposed new laws may grant more freedom to the press and for political parties to form, provided they are not religiously or ethnically based; ironic, since the Baath's Arab nationalism has often grated with Syria's Kurds, who comprise 10% of the country. The congress also pledged to prosecute corruption more keenly and to soften the application of martial law, in force since 1963.

But Syrians were largely disappointed, if not confirmed in their belief that the party, said to be 2m-strong, is incapable of radical reform. Such cynicism has lately been strengthened by the arrest of a dozen opposition activists, following a period of relative leniency. Surrounded by what he sees as hostile forces (old ones like Israel and newer ones such as the Americans in Iraq and emergent Lebanese nationalists), Mr Assad seems to have concluded that it is safest to lock down, sit tight and wait for the storm to blow over. But it may not.

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Lebanon

Nerve-jangling change is coming

Jun 9th 2005 | BEIRUT
From The Economist print edition

Lebanon's four-stage elections should produce a better parliament

Reuters

The rebirth of democracy?

FREEDOM! Independence! Sovereignty! Lebanon would seem to have won the things its chanting throngs demanded this spring. Syria's troops are gone, the press is unshackled, and the freest elections in a generation are under way. But to many Lebanese the cup still looks only half full, and still leaves a bitter aftertaste.

In a region devoid of real parliaments, Lebanon's voting system does look pretty fair, considering the complexity of the country's sectarian patchwork—and given that the last census was in 1932. Voters choose a number of candidates, each of whom represents a religious sect in rough proportion to the sectarian make-up of their district. The trouble is that the law effectively reinforces the sectarian clientilism that many liberal Lebanese see as the source of their country's problems.

Polling in southern Lebanon, in the second of four regional rounds, ended on June 5th. Single electoral slates swept both rounds, returning essentially the same factions that carried the same districts five years ago, during the bad old days under Syrian tutelage. In Beirut, the list named by Saad Hariri, son and political heir to the mega-rich and popular prime minister, Rafik Hariri, who was assassinated in February, was so sure to win that two-thirds of voters stayed at home.

The tally was better in the south, but whereas turnout in Shia areas averaged around 50%, it was less than a quarter in Christian towns. Since Shias make up two-thirds of the region's population, a landslide for lists picked by the two dominant and allied Shia parties, Hizbullah and Amal, was certain. Many Christians felt that to vote was to endorse a system that strips them of what they see as their right to choose their own (ie, Christian) MPs.

Of course, Muslims in mainly Christian areas, such as some of those that will vote in the next two weeks, feel just as disgruntled. But a particular difficulty for Christians in the south is that Hizbullah, unlike Christian parties in the north that were de-clawed at the end of the civil war 15 years ago, keeps a potent, heavily armed militia. These guerrillas are, says Hizbullah, a deterrent against Israel, which occupied parts of the south for 22 years. But Israel withdrew five years ago. Most Lebanese, not just Christians, worry about the militia's trouble-making potential nearly as much as they fear their powerful neighbour.

Hizbullah's strong electoral showing presages a continued struggle over the arms issue. The UN Security Council has resolved that it must disarm, but the party's leader, Hassan Nasrallah, says his party would “sever the hand” of anyone who reached for its guns, let alone for the 12,000

rockets it claims to point at Israel.

Inside Lebanon, Hizbullah has usually acted with more discipline and decorum than other political players. In this electoral season, frenzied horse-trading has created some unholy alliances, and what many see as a wholesale sacrifice of principle for *maslah* (self-interest). “They don't even bother to talk about issues,” says an engineering student who says he now regrets having marched for independence two months ago, when national outrage led to the Syrians' recent withdrawal. “It's just the same old tribal, feudal bazaar we've always suffered from.”

Leaders of all stripes have lately taken to calling each other whores, dwarves and traitors, among other things. But some actors prefer to settle scores by other means. Last week's murder of Samir Qassir, Lebanon's best-known columnist, was a particular shock, despite Lebanon's bloody past. Mr Qassir took an uncommonly sanguine view of Arab affairs. An ardent foe of sectarianism, he was an early, trenchant and courageous critic of Syria and of Lebanon's own Syrian-backed intelligence apparatus. His recent writings suggested that Syrians should emulate Lebanon's revolution, and that it was time for Hizbullah to drop its “resistance” posturing and stick to being a normal political party.

The targeting of someone who was not a politician, in the heart of Christian East Beirut, sent a chilling message. Did it mean, perhaps, that Syria's allies intended to take belated vengeance—or were drawing a bloody “red line”, defining a limit to tolerance of criticism? Or worse yet, was the killing a sign that Syria or its Lebanese friends still plan a comeback, picking off their enemies one by one? In any event, many Lebanese intellectuals, who felt they were at last reclaiming a space for civilised debate, are thinking again of leaving the country, as so many have done in the past.

Still, despite Lebanon's understandably gloomy mood, it is clear that the elections, however tainted, will produce real change. Even the old faces being returned to parliament are singing a new tune: many promise, as a matter of the first order, to change the electoral system.

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Palestine's elections

A dangerous double delay

Jun 9th 2005 | JERUSALEM
From The Economist print edition

A slipping election timetable will favour the Islamists of Hamas

NOBODY said reforming the Palestinian Authority (PA) would be easy. But two delays will now make it a lot harder.

The first, announced on June 5th, was long expected. Months of wrangling about the election due on July 17th to the Palestinian Legislative Council (PLC), the Palestinians' parliament, had failed to produce a deal on how many seats to elect from national party lists and how many from local constituencies. Fatah, the PA's ruling party, with a strong brand (the late Yasser Arafat) but weak candidates (crusty timeservers loyal to him), would do better if it ran on national lists. Its rivals stand more of a chance in constituencies, where personal reputations and achievements count. At a pow-wow in Cairo earlier this year, other Palestinian groups had called for a half-and-half system as one condition for them to suspend attacks on Israel. Mahmoud Abbas, the PA president, could not reach a compromise within his own Fatah nor in the existing PLC, so he has put off the election indefinitely, though it is expected to be held only a few months late.

Hamas, Fatah's Islamist main rival, protested. Some of its members hinted at resuming violence; and on June 7th a flurry of Qassam rockets was fired from Gaza. But, as both Israel and Hamas knew, the attacks were just muscle-flexing, of a kind the “ceasefire” has seen before. For in reality the election delay suits Hamas. Fatah's unpopularity is growing. Its PLC members, after a decade in their seats, are despised. After Israel's pullout from the Gaza strip this summer, Hamas could do even better in the polls.

More worrying for Mr Abbas was Fatah's decision, a day after he postponed the election, to postpone its own party congress, set for August, when a younger, reformist generation was expected to vote old-guard members out of the party's ruling councils. The old-timers' main hope was to win seats in the PLC election first. Holding it after the congress would have skewered them. That they managed to delay the congress too confirms the resistance that Mr Abbas faces.

That, too, can only help Hamas. In local elections this year it has done well; the third and biggest round may now be delayed too. But the longer voters watch Fatah cling to power while tearing itself apart, the harder its fall. Israel, the United States and (more reluctantly) Europe reject official contact with Hamas, which has carried out many terrorist attacks in Israel and does not recognise the state. But as it takes over local councils, foreign donors increasingly have to deal with it. European diplomats have been discreetly meeting people close to Hamas, though Britain's foreign secretary, on a visit to Israel, said that Britain would ban meetings with Hamas leaders or official representatives. But even American officials have been making off-the-record noises about possible contacts with members of the organisation.

Such recognition that Hamas is much more than just a terrorist organisation is “very important to it”, says a European diplomat. The time for full-blown contacts is far off, and not until after PLC elections will it be possible to judge the party's true strength. But the more Fatah founders, the more Hamas will become a legitimate, democratic representative of many Palestinians: one that

nobody can ignore.

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Zimbabwe

Out in the cold

Jun 9th 2005 | HARARE
From The Economist print edition

This time poor townsfolk are the butt of President Robert Mugabe's repression

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AP

Just rubbish to Mugabe

WHERE Hatcliffe Extension once stood, there is now only rubble and desolation. In this northern neighbourhood of Harare, Zimbabwe's capital, the wind sweeps across an area where more than 7,000 people had their homes, until they were ordered by the police to destroy them. A crèche for AIDS orphans did not escape the onslaught. There is nothing left of the buildings, save for the concrete floors and the crumbling wall of what used to be the dining room. Nearby, a barefoot widow and her two children stand in the ruins of their shack, their meagre belongings gathered under plastic sheets. Though relocated here over a decade ago by the government, they now sleep in the open, with nothing to protect them from Harare's biting winter cold. With tears in her eyes and a broken voice, she shows a lease and receipts for rents she has paid. “I have nowhere to go,” she laments.

In Mbare, a township south of Harare, it is no different. House owners were told to destroy the extra rooms they had built in their courtyards and rented out. Backers of Zanu-PF, the ruling party, have not been spared. Settlements built on farms around Harare occupied by government supporters have been bulldozed too.

They are all victims of President Robert Mugabe's “Operation Murambatsvina” (Drive out the rubbish). Over the last three weeks, it has left hundreds of thousands of people homeless; more than 30,000 traders have been arrested and told to pay fines. So senseless does this crackdown on a section of his own people seem that it has left many wondering what Mr Mugabe's true motivation for it may be.

The government says it is cleaning up illegal houses and businesses, and will relocate those left homeless—promises that so far have not been met. It accuses informal traders of black-marketeering and of cornering the country's little remaining foreign currency. The crackdown may be an attempt to bring all business activity within the tax system, though some say they already had the right licences. In any event, economic activity is sure to shrink.

But the real reason for this mass destruction may be to drive people back to rural areas. The government's land redistribution policy, which led to the invasion of the country's white-owned farms in the past few years, has contributed to the economic catastrophe that now grips Zimbabwe. On top of a drought and the devastation of HIV/AIDS, the land grab has made food production plummet. The UN's World Food Programme reckons that 3m-4m people will need food aid this year. Cooking oil, sugar and Zimbabweans' staple maize porridge have become very hard

to come by in Harare, harder still in the countryside. Unemployment is probably over 70%; inflation, at last count, was 129%. There is not enough foreign exchange to cover basic imports. Long lines of cars wait in front of petrol stations rumoured to be expecting a delivery.

According to Peter Kagwanja, Southern Africa director of the International Crisis Group, which focuses on conflict prevention, pushing people out of the cities has several advantages from the government's perspective. Reviving agriculture cannot be done without labour, and most of it left the countryside as commercial farming collapsed. So far, only a fraction of occupied land has been put to good use. Without more labour, even subsistence agriculture cannot pick up. The governor of the central bank, Gideon Gono, has suggested that “progressive-minded” white farmers should come back and work in selected sectors, such as horticulture and dairy farming. But as many were driven off their farms in the first place, that offer may have limited allure. The ruling party has recently talked of amending the constitution to end private land ownership altogether.

Kicking people out of the towns may also have political advantages for the government. The Zanu-PF has lost its political grip on the cities, whose voters mostly back the opposition Movement for Democratic Change (MDC). After the general election in March, which most human-rights organisations condemned as unfair, and with economic hardship growing, the spectre of an uprising similar to those that have recently happened elsewhere in the world may be haunting Mr Mugabe. Dispersing city dwellers may make it easier to keep a lid on discontent. His ZANU-PF has been widely accused of controlling rural people by threatening to withhold food aid if they step out of line.

So far, however, the MDC has failed to capitalise on the crisis. After the election, supporters awaited calls for mass protests, but none materialised. There are rumours of discord within the party, but Welshman Ncube, its secretary-general, dismisses recent intimidation of party officials by MDC youths as orchestrated by Zanu-PF.

The MDC, together with trade unions and churches, called for strikes on June 9th and 10th; the authorities say they will respond ruthlessly to any protests. Isaac Mathango, the MDC's chairman, says he fears that the police will kill people if they march, and that other forms of protest may be organised later. But many MDC supporters think this is too little too late and are disappointed by the party's apparent lack of leadership. With so little to lose, some would surely be ready to face police batons or even worse, rather than sit around in the ruins of their old homes.

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Economist.com WORLD AFRICA & MIDDLE EAST

Burundi's election

Why it matters

Jun 9th 2005 | BUJUMBURA
From The Economist print edition

Africa badly needs Burundi's national elections to be a success

NOBODY promised that staging the first elections in Burundi for 12 years would be easy, and that is just how it has proved. On June 3rd, the first day of polling, scores were injured and polling disrupted when grenades were thrown near queues of people waiting to vote. UN peacekeepers protecting international observers were fired on. But on June 7th, despite more shelling around the capital, large numbers defiantly queued up again in the more troublesome constituencies to re-cast their votes.

This stubborn refusal to be cowed is perhaps a sign that Burundians are well aware that these local polls offer the best way out of more than a decade of civil war that has left an estimated 200,000 dead. That war was sparked by the last elections, in 1993, which led to widespread ethnic conflict between mostly Hutu rebels fighting against the politically dominant Tutsi minority. As the polls closed on June 7th, the largest of the Hutu rebel groups, the Forces for the Defence of Democracy, looked poised to win a big majority of the constituencies—and looks set to win general and presidential elections in coming months.

Speculation abounds that sympathisers loyal to the Tutsi-backed Hutu president, Domitien Ndayizeye, were responsible for trying to disrupt the polling. His party was the only one to protest against the official results. The government, for its part, blames the election violence on the National Forces for Liberation, the only rebel group outside the peace process.

The result is just what Africa's regional leaders, working through the Regional Peace Initiative for Burundi, backed by the UN and the African Union, had envisaged when they brokered a peace deal in the Tanzanian town of Arusha in 2000. This recognised the need to transfer power from the Tutsi minority to the Hutu majority, and from military to civilian control. Burundi's election experiment matters a lot: if the country were to slide back into civil strife, much of east and central Africa, including Congo, could be destabilised.

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The European Union in crisis

Marching into battle

Jun 9th 2005 | BRUSSELS AND STRASBOURG
From The Economist print edition

Europe's leaders are slowly coming to terms with the death of the constitution, but they continue to fight over money

MOURNING can take many forms. After the death blows to the European Union constitution dealt by French and Dutch voters, many European politicians were for a time in denial. The French and Germans, and the bosses of the EU institutions in Brussels, insisted that the constitution was alive and that ratification should continue. Some federalists even clung to the hope that a yes vote in Luxembourg on July 10th might revive the corpse. The British have been widely accused of showing an unseemly desire to bury the constitution, even though all they did this week was to announce that they were suspending the parliamentary bill authorising a referendum.

The fact is that the constitution has indeed been killed by the French and Dutch votes. This is not just because of the formal legal position that all 25 EU countries must ratify the text if it is ever to come into force. It is also because the federalists' scenario for reviving the constitution is wildly unrealistic. Their hope was that, if ratification could be kept going, a few naysayers might eventually be isolated—and prevailed upon to try again.

The trouble is that, for this to happen, France and the Netherlands would have to vote once more. And there is no reason to suppose that their resounding no verdicts (55% and 62%, respectively) would be turned around in a second vote, particularly since there is no appetite in the rest of the EU for any renegotiation of the text. It is also likely that further referendums around Europe will produce further rejections. The Danes, who at first insisted that they intended to press ahead with their own referendum on September 27th, have piped down, after the opinion polls swung

massively towards a no. Like the British, they now hope for an agreement to “pause” the ratification process at the EU summit in Brussels on June 16th-17th. It might turn out to be a very long pause.

These political realities were at last sinking in this week. Even some who had initially been loudest in calling for a continuation of the ratification process were reconsidering. As Alexander Stubb, a federalist Finn in the European Parliament, put it, “we need to stop the bleeding.” And some who continued to press for more referendums were pursuing an agenda that actually had little to do with saving the constitution.

Thus the main motive of France's Jacques Chirac seemed to be to shift some of the blame for the constitution's demise, and to force his rival, Britain's Tony Blair, into his own referendum humiliation. Surprisingly, Mr Blair seemed disinclined to take the bait. The Irish say they are committed to a referendum, but this is mainly for reasons of diplomatic etiquette: “we're lying”, says one Irish analyst. The Polish government has also indicated that it may still hold a vote. But this is a gambit to keep Germany sweet for the summit. The Poles' overriding aim is to get a generous deal on the EU budget for 2007-13, giving them billions of euros over the course of six years. If the cost of such a prize is a few insincere promises on the constitution, so be it.

As the Polish position shows, the constitution is not the only game under way. There are fears about the health of the single currency, the euro (see article). And next week's summit may be largely dominated by a row over the budget, as Europe's leaders strive hard to reach a deal on the EU's future financing, if only to show that Europe can still function after the constitutional debacle.

There are, however, huge issues still to be resolved on the budget, notably over how big it should be, and whether to scrap or cut the British budget rebate. The size of the budget could perhaps be settled by the time-honoured tactic of splitting the difference between those who want it to be no more than 1% of the EU's GDP and the maximalists pressing for 1.14%. The Luxembourg presidency has put forward a compromise that leans to the minimalists.

On the rebate, though, Mr Blair will find himself in a minority of one—just like his predecessors. The British have been trying in vain to win allies by hinting to the Poles and nine other new EU members that Britain might find some way of returning the new members' contribution to the British rebate—avoiding the public-relations problem of poor central Europeans appearing to write cheques to the rich British. The presidency has proposed a different solution: to “freeze” the British rebate at around its present level of €4 billion ($5 billion), instead of letting it rise to €7 billion, as it otherwise would under the two-thirds refund of her net payments that Margaret Thatcher secured at the Fontainebleau summit in 1984.

Mr Blair is under pressure to give ground, but officials insist he will resist. Even after the rebate, Britain has for many years been the second-biggest net contributor to the EU budget. The government accepts that Germany, the Netherlands and Sweden, which all now pay more per head than Britain, have a case for rebates too, but not at British expense. In any case, argue the British, the cause of the budgetary burden that led to the rebate is, as it always was, excessive spending on the common agricultural policy. So the solution should be further reform (or renationalising) of the CAP, not attacks on the rebate.

Mr Chirac will not accept this, on the ground that the EU agreed to preserve CAP spending in 2007-13 at a summit in October 2002. But unless and until that CAP deal is reopened, Britain will not give way on the rebate either. The odds must be on no budget deal at the summit.

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Switzerland and the EU

One country says yes

Jun 9th 2005 | GENEVA
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The Swiss accept Schengen, but a tougher vote on labour migration lies ahead

AT LEAST one referendum has produced a European Union-friendly result, even if it was in a non-EU country. On June 5th, the notoriously Eurosceptic voters of Switzerland endorsed, by a 55-45% majority, plans to join the 13 European Union countries in the Schengen passport-free travel zone (it already has two other non-EU members, Iceland and Norway). Voters also approved of joining the EU's Dublin agreement on handling asylum seekers, and of participating in more co-ordination of policing and crime-fighting.

Coming only four years after the Swiss rejected talks on EU membership by 77-23%, the decision to join Schengen was essentially pragmatic. This is one of the building-blocks in a series of bilateral accords struck with Brussels over the past four years to let Switzerland reap the practical benefits of co-operation with the EU, while keeping at arm's length the tighter political commitment of full membership. Smaller crossing-points were already deserted because of local police agreements. Customs checks on shoppers and trade will remain.

By saying yes, the Swiss have agreed to entrust at least part of their defensive ring to other countries. The voters also defied the opposition of the right-wing Swiss People's Party (SVP), Switzerland's largest party. The SVP's leader, Christoph Blocher, now justice minister in Bern, had little choice but silently to toe the government line. But his supporters deployed a lurid advertising campaign to whip up fears of a flood of immigrants from eastern Europe. This struck a chord in rural and suburban German-speaking eastern Switzerland, even if not enough of one to defeat the plan.

Another referendum, on September 25th, to approve the extension of a bilateral agreement on the free movement of workers to cover the ten new EU members, may prove a sterner test. Under a guillotine clause agreed with Brussels, its rejection would nullify the bilateral accord on Schengen, and maybe earlier deals too. The campaign will be grubby. Just as the “Polish plumber” symbolised fears of cheap labour from the east during the French referendum, so “Polish butchers” featured in the anti-Schengen drive in Switzerland. They will be back in the run-up to September 25th.

A no vote in September could cause a crisis in Swiss-EU relations: there is, as so often, no plan B. Yet the EU foreign-affairs commissioner, Austria's Benita Ferrero-Waldner, was short-sighted in declaring, just after the vote, that Schengen membership still depended on the September 25th result. The SVP seized on her remarks as “blackmail”. Mrs Ferrero-Waldner may have sliced a few crucial points off the next “yes” vote.

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France's new government

The 100-day man

Jun 9th 2005 | PARIS
From The Economist print edition

Fast action on jobs is the top priority for Dominique de Villepin's government

Get article background

BACK to work! That was the message from Dominique de Villepin, France's new prime minister, to a discontented electorate this week—and to his own team. In his first speech to parliament on June 8th, he resolutely declared war on unemployment. As if to prove the point, he hauled the full cabinet in for a meeting on his first Sunday in the job. The symbolism was plain: no time would be wasted in the fight to restore jobs and confidence.

“Unemployment”, Mr de Villepin declared, is “the true French disease.” He pledged that “all the force of my government” would be engaged in “the battle for jobs”. Achieving this, he said, was not a matter of choosing between “liberal and social” but between “immobility and action”. He has promised results within 100 days, in keeping with his hero, Napoleon.

The impression of dynamism is genuine enough. France's new prime minister runs marathons, revises speeches into the small hours, finds time to publish a book a year (including one on his hero). His team includes such energetic men as Nicolas Sarkozy (who also heads the ruling UMP party), at the interior ministry, and Thierry Breton, at finance. If he is to consider a bid for the presidency in 2007, Mr de Villepin needs results, and fast.

Yet he is pinned into an uncomfortably tight corner. On one side, social unrest still lingers after voters decisively said no to the European Union constitution on May 29th. Anything that smacks of *libéralisme* will meet resistance by unions and the hard left, which mobilised forcefully for a no. They threaten to take to the streets if workers' rights are threatened.

On the other side, the unelected Mr de Villepin is in government with his chief centre-right rival—Mr Sarkozy—whom many deputies, fearful for their jobs, would have preferred as prime minister. Tensions will be hard to contain, and Mr Sarkozy has made plain that he will continue to speak his mind. Moreover, Mr de Villepin enjoys no honeymoon period. Fully 79% think he will not be able to act on unemployment within 100 days, said a poll in *Le Parisien* this week. And President Jacques Chirac's popularity is in free fall: it is just 24%, says TNS-Sofrès, the lowest in his ten-year presidency.

Treading a path through this thicket, Mr de Villepin this week announced surprisingly detailed measures to create jobs. They included simplifying red tape and lowering social charges for small firms; a special incentive for the long-term unemployed to accept a job; and a new work contract that offers employers more flexibility in the first two years, while giving employees more help if dismissed. To move fast, these measures will be introduced by decree, not put to parliament.

The rest of the job plan merely expands on an existing “social cohesion plan” devised by Jean-Louis Borloo, the employment minister. It relies heavily on subsidised municipal job creation. The scheme could dent the unemployment figures. But it will do little to free up the labour market. And

its expansion will come at a price—an extra €4.5 billion ($5.5 billion) in 2006, said Mr de Villepin. He added that, as all extra money had to be dedicated to jobs, he would have to suspend Mr Chirac's promised income-tax cuts. Even so, Eric Chaney, chief European economist at Morgan Stanley, says he is raising his budget-deficit forecast for 2006 from 3% to 3.5%.

Rivalry is weakening the left as well as the right. At the weekend, François Hollande, the Socialists' boss, evicted from the party leadership his number two, Laurent Fabius, along with several fellow rebels, for leading the no campaign against the party line. Mr Hollande needed to restore his authority: party members had backed a yes in an internal vote. But the expulsion carries a risk that Mr Fabius will appear a victim, and his stock may rise.

A party congress has been called for November, at which Mr Hollande is expected to seek a fresh mandate. Although not designed to pick a presidential candidate, the vote will test who can carry authority—and whether the Socialists will continue to modernise, or swing further left. Mr Fabius has a tricky calculation to make. Despite his referendum boost, his fellow rebels still distrust him. The last time he stood for the Socialist leadership, in 1990, he carried only 29% of the vote.

Political instability on all sides looks inevitable. Mr de Villepin's government is perilously perched: vulnerable to fratricide from within, exposed to discontent from without. The question is, how long will it last? Already, Mr Sarkozy has hinted that he will not stay beyond late 2006. If French discontent cannot be defused, early parliamentary elections cannot be ruled out.

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Italy and the euro

That lovely lira

Jun 9th 2005 | ROME
From The Economist print edition

The strange politics of attacking Europe's single currency

Get article background

THE fallout from the French and Dutch referendums has reached as far as Italy. The Northern League, one of four main parties in Silvio Berlusconi's conservative coalition, has begun a campaign for a referendum on whether to reintroduce the Italian lira. Roberto Maroni, the welfare minister and a leading Leaguer, said on June 3rd that it would begin to collect the necessary signatures soon.

This is just the sort of attention-grabbing initiative typical of a movement that has invented a whole new territory ("Padania", its term for the north). Yet most of the party's allies have distanced themselves from the wheeze. The European Central Bank's chief economist, Otmar Issing, said a return to the lira would be "economic suicide".

Italy's adoption of the euro eased the servicing of its vast debt (over 100% of GDP), because it slashed interest costs. If it reintroduced the lira, a large part of what ministers would like to spend would have to be diverted to debt service, especially if markets feared that the lira's return was a harbinger of future devaluations. Mr Maroni initially suggested that this was just what he had in mind, though he later talked of linking a new lira to the dollar.

The League's idea, most economists and politicians agree, is not a serious one. But, although Mr Berlusconi has reproved the League for attacking President Carlo Azeglio Ciampi for his role in steering the country into the euro, he has not condemned the substance of its proposal. Nor has his finance minister, Domenico Siniscalco. Why not?

One reason is that the euro remains unpopular with Italians. They see it as having created a pretext for outrageous price increases and as a cause of the economy's dismal performance. That is wrong—Italy's problems are mostly home-grown—but it is a perception that Mr Berlusconi, who faces parliamentary elections next spring, has every interest in encouraging. The League's campaign helps to deflect the blame from his government and towards Brussels, which this week began proceedings against the Italian government for running an excessive budget deficit.

It also embarrasses the opposition, for the man who did more than anybody to get Italy into the euro is the present opposition leader, Romano Prodi, who was prime minister in 1996-98. Mr Berlusconi may choose not to jump on board the League's ill-conceived bandwagon, but nor is he rushing to stand in its way.

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German politics

In limboland

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An election on September 18th is still likely, but not a certainty

Get article background

HERE is another theory for why Gerhard Schröder, Germany's chancellor, decided to go for early elections: he is gambling that either the federal president or the constitutional court will stop him—so he can stay. That would put the opposition Christian Democrats (CDU) in the awkward situation of having chosen their candidate, written their programme and spent much of their money. It seems highly unlikely, but such talk is testimony to Germany's state of political limbo. One rumour chases another, and neither a constitutional crisis nor Mr Schröder's resignation can be totally excluded.

To avoid the instability that plagued the Weimar Republic, Germany's constitution made it hard to dissolve parliament and call early elections. The only clear-cut situation is if there is no majority in parliament for a new chancellor. The dodgier solution is for the government to lose a vote of confidence by persuading some supporters to defect, in effect tricking the constitution. The federal president can, if he thinks there is no need for early elections, refuse them. And even if he gives his go-ahead within the requisite 21 days, members of the Bundestag can take the issue to the constitutional court.

When Willy Brandt became the first chancellor to seek early elections via a vote of confidence in 1972, nobody complained: after parliamentary defections, he no longer had a majority. When Helmut Kohl did it in 1982, it smacked of manipulation, since it was designed to lock in strong public support. Yet despite misgivings, the president and the court caved in, although the court ruled that there must be a “political situation of instability” for such a route to be taken again.

Mr Schröder can argue that he is in such a situation: he has only a slim majority in parliament, and some left-wingers have threatened to defect. All important legislation can now be blocked by the upper house, which is controlled by the opposition. But matters are complicated by Germany's political set-up, which is why Mr Schröder is waiting to reveal his course of action until shortly before July 1st, the likely date for the vote of confidence.

Nobody within the governing coalition wants to be responsible for regicide, because this could lose votes. It seemed at first that left-wingers in the Social Democratic Party (SPD) would do Mr Schröder the favour of not voting for him. When they refused, the chancellor tried to get his coalition partner, the Greens, to do it—which almost blew apart the coalition. Now he seems likely to invite ministers, most of whom are members of parliament, to abstain.

Mr Schröder's gambit may lead to a trial of strength with the president, Horst Köhler. The chancellor informed the president only after his decision had been announced. Mr Schröder also let it be known that he would stay if parliament were not dissolved. Mr Köhler is upset, and has made remarks implying that Mr Schröder neither knows nor respects the constitution. If he meekly yields to Mr Schröder's and the opposition's desire for an early election, he might seem a patsy;

and the court could overrule him. On the other hand, most Germans want elections; stopping them, so leaving the coalition in power, could create a crisis of its own.

Even if Mr Köhler goes along with the election and the court does not intervene, Mr Schröder is not out of the woods. The controversy over the early election seems to have sped the decline of the SPD, after its crushing defeat in North Rhine-Westphalia. None of the aims of Mr Schröder's surprise election call have been met. Bickering within the coalition has increased, and the installation of Angela Merkel as the opposition's chancellor-candidate was swift and smooth. Ms Merkel, long the great unloved figure in German politics, is now more popular than Mr Schröder. Germans seem to want a change of government, no matter to whom.

As a result, yet another rumour is doing the rounds: that Mr. Schröder could step down, whatever Mr Köhler decides, making way for Franz Müntefering, the SPD's boss, who would serve until the autumn of 2006. Could this, one way or another, be the moment to count Mr Schröder out? It is hard, for once, to see how he might bounce back. If he is not careful, he may even be bungling his own exit.

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Bosnia's government

Political stalemate

Jun 9th 2005 | BANJA LUKA AND SARAJEVO
From The Economist print edition

Trouble over police reform—and over receding European Union membership

AFP

Still shocking, ten years on

RAIN or shine, nothing deters old men in Bosnia from playing chess with giant pieces in the park. The same could be said of Bosnia's politicians, except that they have a country to play with. Right now it is in stalemate. The government is in turmoil after the parliament of Bosnia's Serbian republic, in Banja Luka, rejected plans to reform the police.

This reform is a key EU demand before it can open membership talks with Bosnia. Worse, the French and Dutch noes to the EU constitution have sent shock waves through the Balkans, since they put in question all countries' hopes of membership. And a video shown at the UN war-crimes tribunal in The Hague has revived bitter wartime memories of Serbs executing Bosnian Muslims (or Bosniaks) after the fall of Srebrenica in July 1995.

Under the Dayton peace agreement that ended the war ten years ago, Bosnia is divided into two main parts. Alongside the Serbian republic is a Bosniak-Croat federation. Yet this divided country, with a population of only 4m, has no fewer than 16 police forces. In November 2003 the EU set Bosnia a list of 16 conditions, almost all of which have been fulfilled—except for police reform. The Serbs are objecting because the new rules would strip their republic of control of its own police. Dragan Cavic, president of the Serb republic, says that for him to try to sell this to his people would be to “commit suicide”.

Many Serbs think that Paddy Ashdown, the international high representative for Bosnia, wants to strip their republic of all its real powers before his mandate expires at the end of the year. Not so, he says. The reform is needed because, all over Bosnia, the police are under the control of old-style political cliques; and it is vital to break what he calls the “nexus of politics, crime and the police.” Yet if the Serbian no holds, Bosnia is stuck, unable even to begin talks with the EU. Lord Ashdown says, ruefully, “I have been saying for three years to my Balkan colleagues that the mood of Europe is changing and the door may not be open for so long, so don't wait, don't delay.”

This week Bosnia tipped even further into crisis. Mladen Ivanic, Bosnia's foreign minister, was sacked by the prime minister, but refused to go. Only a day earlier, Mr Ivanic had indicated that he was not so worried by the French and Dutch referendums, because, even if enlargement slips a bit, “we are not so close.” If Bosnia's negotiations took as long as Bulgaria's, it might not join until 2020.

Mr Ivanic is, however, alarmed by the video, which was shown first in The Hague and then on television in Bosnia and Serbia. It featured paramilitaries from Serbia executing six young Bosniaks from Srebrenica. He says that, if Bosniak politicians “misuse” this to argue that the

Serbian republic was born out of genocide and should be scrapped, much of the progress made in the past ten years could be at risk. In Serbia, the video led to arrests of the alleged perpetrators.

A compromise could yet emerge on policing. Dragan Jerinic, editor of *Nezavisne Novine*, a Banja Luka paper, says the argument is not really about police but about the desire for revenge on the part of Serb politicians who were sacked by Lord Ashdown last year for protecting war-crimes suspects. If these politicians were rehabilitated, he suggests, police reform would be accepted, just as other difficult centralising measures in defence and taxation have been.

Osman Topcagic, who is in charge of European policy in the central government in Sarajevo, says it is vital to change the way the EU sees Bosnia. Ten years after the war, he notes that Bosnia is still seen largely as a security problem. Thus money is available to finance 7,000 EU troops in Bosnia, while he argues that it now needs fewer peacekeepers and more development funds. What bothers Mr Topcagic still more is that his compatriots spend too much time “talking a lot about the past and not enough about the future.” In Banja Luka, Tanja Subotic, a local journalist, agrees, noting that “in people's heads the war is not over.”

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Charlemagne

Those Ozymandian moments

Jun 9th 2005
From The Economist print edition

The European Parliament is the big loser from the rejection of the EU constitution

Get article background

VISITING the European Parliament in Strasbourg this week was one of those Ozymandian moments. Ozymandias, as readers of *The Economist* will instantly recall, was an Egyptian pharaoh who inspired a poem by Shelley, in which a "traveller from an antique land" comes across a ruined statue in the desert, on which are inscribed the words: "My name is Ozymandias, King of Kings; Look on my works, ye Mighty, and despair!" It is true that the first reaction of many visitors to the European Parliament is not to despair, but rather to head off for a good lunch and then file an expenses claim. But recent developments in the European Union represent such a stunning setback to the entire political vision that is embodied by the parliament that one cannot help wondering whether its grandiose buildings could yet suffer the fate of Ozymandias's statue.

For the time being, the parliament is still expanding rapidly, to accommodate all the new members and staff necessitated by the EU's latest enlargement. A new steel-and-glass extension, running parallel to the existing buildings, is taking shape across three blocks in Brussels. The total cost of constructing the parliament buildings in Brussels is now close to €1 billion ($1.2 billion)—and the debating chambers and offices are suitably well-appointed. A visitor from *The Economist* in London who recently met the parliament's secretary-general said afterwards that the only person he had ever met with a larger office was the Saudi oil minister. And in a piece of extravagance that even MEPs admit is absurd, the parliament maintains another vast (and costly) building in Strasbourg, a French provincial city, which is used for only four days a month.

Might all this magnificence eventually crumble away? There is no immediate threat. But the subdued atmosphere in Strasbourg this week reflected the fact that, of all the EU's institutions, it is the parliament whose *raison d'être* is most directly called into question by the failure of the constitution. The European Commission can, if necessary, abandon its pretensions to being a European government and become a normal civil service. The Council of Ministers brings together politicians from the EU's 25 national governments. But the parliament is largely dependent on further integration of the EU. If the political union of Europe were to proceed apace, the parliament would flourish; if political union were to die, the parliament's role would, eventually, have to come into question.

The parliament has always fancied itself as the answer to longstanding complaints about the EU's "democratic deficit". When people pointed to a lack of connection between European voters and the institutions of the EU, MEPs routinely responded that the answer was to give the European Parliament more powers. After all, it is the only directly elected EU institution. Over the years it has indeed gained more powers, and the constitution planned to expand these further. But the rejection of the constitution in the French and Dutch referendums has cruelly exposed the fantasy that the European Parliament is the answer to the disconnect between political elites and ordinary citizens. The parliament—including French and Dutch MEPs—voted overwhelmingly to approve the EU constitution, only to find that the voters seemed to disagree.

A comparison of voter turnout in the referendums and in European parliamentary elections leaves little room for doubt about which was the more telling expression of public opinion. In France the turnout in last year's elections to the European Parliament was 43%; in the referendum, it was almost 70%. In the Netherlands the figures are: 39% for the European elections, 63% for the referendum. Far from being the solution to the EU's democratic deficit, it turns out that the parliament may just have been another part of the problem.

Home advantage

No European institution staked as much on the constitution as the European Parliament. The convention which drew up the document even took place in its building in Brussels. It was, joked parliamentarians, a “home match”; and MEPs who took part in the convention exploited their knowledge of the local terrain to the full. Such men as Elmar Brok of Germany, Andrew Duff from Britain and Alain Lamassoure of France, hardly household names in their own countries, were big figures in the convention. And, unlike most national politicians in the convention, the MEPs had been thinking and writing about European constitutional issues for decades. Their mastery of the issues and the clarity of their ambitions allowed them to exercise a disproportionate sway over the writing of the constitution. Unsurprisingly, the result was a considerable increase in the powers of the European Parliament. But, for the MEPs who helped to write the constitution, it was far more than a grab for power: it was their chance to secure a place in history.

In the wake of the constitution's rejection, its parliamentary backers are bewildered and dejected. They feel like novelists who have been working on a book for 20 years, only to see it trashed by the reviewers. Mr Duff disarmingly admits to having trouble sleeping, and to changing his mind repeatedly about the way forward. His latest plan, to reconvene the constitutional convention and redraft the document, is probably not the best he has come up with.

Rather than trying to revive the schemes of the past, creative minds in the parliament should perhaps turn their attention to the problems of the future—such as what to do with their buildings if the EU really starts to unravel. Perhaps they could be turned into a hotel, or a conference centre. Or, if such solutions do not satisfy advocates of social Europe, a hostel for migrant workers might be another option. Or perhaps the parliament's buildings could just be left to rot, Ozymandias-like, as one more monument to the folly of political ambition.

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Road pricing

Driven to radicalism

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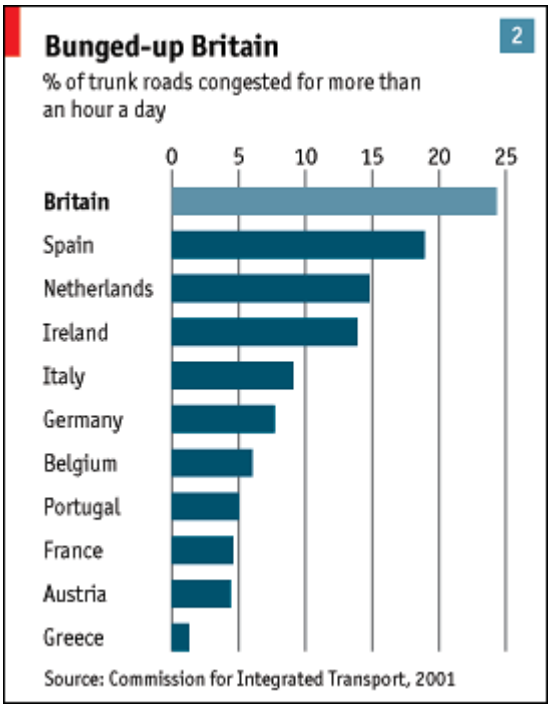
A national road-pricing scheme is looking less like a fantasy and more like reality

TRANSPORT and politics do not mix. Road and rail policy operates on time-spans of a decade or more, offering little electoral advantage to ministers, who are never more than five years away from losing their jobs. So it was nice to see Alistair Darling, the transport secretary, taking the long view last week by restarting the debate on using pricing to reduce congestion on Britain's worsening roads.



Everyone agrees that big changes are needed. The problem is not a lack of capacity (most roads are empty most of the time) but the lack of an efficient system for allocating it. Cars impose big costs on society mainly in the form of congestion, but also through pollution, wear and tear, and road accidents. In the absence of a market, road space is allocated by queuing, putting Britain at the top of the European congestion league (see chart 2). The current tax system (under which drivers pay an annual charge on their cars and high taxes on fuel) is good at encouraging fuel efficiency, but bad at reducing congestion, which concentrates around a few urban areas and trunk roads. As a result, rural drivers pay too much and urban ones too little. A system that charged individual drivers for the costs of increased traffic density, vehicle emissions and damage to the roads would encourage more efficient use of a scarce resource and be fairer to boot.

Road pricing is easy to do. Many European countries have toll roads. Sweden already runs a paper permit-based system for lorries. Singapore used permits to control access to the city centre from 1975 until 1998, when it switched to a network of electronic sensors. The British government is toying with something fancier: a system based on satellite positioning. At the moment, the technology is too inaccurate to use in cities or forests. But while a low-tech system could be built at once, the government has set a tentative date of 2014 for any British system—by which time better satellites will be available.

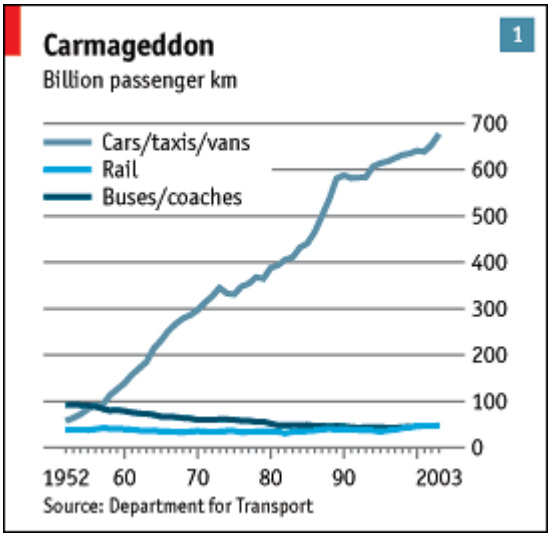
Whether it is politically feasible is another question. Economics suggests that pricing the roads properly would make everybody better off through faster journeys, cleaner air or cheaper travel. Yet convincing the voters will be hard.

Fuel and car taxes are unpopular because the government earns far more from them than it spends on roads. In 2000, a surge in fuel prices led to blockades outside refineries that succeeded in choking off the nation's petrol supplies. That was one of only two times in Tony Blair's premiership that Labour's approval ratings have fallen below those of the opposition Tories. Mr Blair has not forgotten, and fuel taxes have not risen since in real terms.

Still, the evidence suggests it can be done. When Ken Livingstone, the mayor of London, introduced the capital's congestion-charging scheme in 2003, he sold the policy to a wary public by promising to corral the (fairly modest) revenues and spend them on better public transport.

The government has indicated that it is thinking of sugar-coating its scheme by cutting fuel and car taxes so that, overall, motorists would pay no more to the Treasury than they do now—about £26.5 billion ($48 billion) a year in 2002-03. Pricing the roads according to public opinion rather than the true cost of motoring sounds like a compromise. But, interestingly, what sounds like a political trade-off between efficiency and acceptability may be the right outcome. Stephen Glaister, a professor at Imperial College, says that, assuming that various environmental costs lie roughly in the middle of their likely ranges, an efficient system could generate about as much revenue as today's taxes. Only the distribution would change, with the heaviest users of the roads paying more.

Motorists might be mollified by assurances that they won't have to pay more, but it would leave ministers unable to repeat the bargain made by Mr Livingstone. A revenue-neutral system would mean no extra cash to spend on improvements to public transport or better roads. The busiest railways and bus routes tend to run alongside the busiest roads, and without more capacity, the risk is that congestion would merely be shunted from cars on to already-crowded trains and buses. Rod Eddington, British Airways' chief executive—who has been hired by the government to think big thoughts about the future of transport—has said that he favours lots of investment in new infrastructure. A revenue-neutral scheme would mean the money for that would have to come from unpopular tax hikes elsewhere.



In the long run, though, road pricing could make transport decisions easier. Mr Glaister points out that road charging would remove one of the main justifications for the subsidies paid to the railways and buses, as well as highlighting the financial pressures they face. Heavily subsidised rural lines, which already spend most of their time transporting fresh air, would become even less viable as passengers switched to cheap motoring. Crowded urban routes would be even more packed with refugees from the roads, making a good case for extra investment. Diverting capacity to where it will do the most good is a sensible policy, but, again, there will be political problems. The countryside lobby, for instance, will oppose cuts to rural bus and train services.

Of course, 2014 is a long way off. Road pricing has been suggested before, first in 1964 and again in 1971. Both times the government lost its nerve. But with traffic expected to rise inexorably over the next 20 years, doing nothing is getting harder. Mr Darling has called for a decision before the next election. Both the main opposition parties support the idea in principle. Making it happen in practice will be difficult, but the worse the traffic gets, the more appealing any solution begins to look.

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Internet gambling

Flush

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A London listing for a business that may be illegal in its main market

IF YOU are playing poker and you can't tell who at your table is the sucker, then it is probably you. That piece of poker lore may be worth pondering by those about to snap up shares in the forthcoming initial public offering (IPO) of PartyGaming, the world's leading online poker site. The listing of 23% of PartyGaming's shares on the London Stock Exchange is expected to give the firm a market capitalisation of at least $10 billion ($18 billion), making it one of the 100 biggest listed British firms.

Can that value possibly be justified? After all, PartyGaming, though profitable and fast growing, with strong cashflow, has been in its main business for under four years. It faces competition that is fierce and intensifying. And it makes most of its money from an activity that, in America, its biggest market, is probably illegal.

Richard Segal, PartyGaming's boss, says the firm not only has huge growth potential but already pays a dividend that a mature company could be proud of. The IPO is intended not just to raise some cash for its founders (including Ruth Parasol, described in breathless media reports as an erstwhile adult entertainer), but also to help fund even more rapid expansion, both geographically (online gambling in Europe and Asia lags behind America) and into other sorts of games. And as the industry consolidates, PartyGaming expects to use its shares to buy up its rivals, both online and, quite likely, in the traditional betting business, too. It wants to become the world's leading gambling company.

The hype surrounding gambling shares—other popular ones listed in London are BetFair, Sportingbet and Betandwin—is eerily reminiscent of the internet bubble in 1999-2000, when investors paid daft prices for firms with identical, untested, business models. Yet even if growth slows sharply, the numbers could still look attractive. Dresdner Kleinwort Wasserstein, the investment bank underwriting the IPO, expects the global online poker market, which has quadrupled in the past two years, to quadruple again by 2008, by which time it expects overall online gambling revenues to exceed $18 billion.

Can PartyGaming become the eBay of online gaming? It has a market share of over 50%, and says it hosts over a billion poker games a year. Like eBay it benefits from early-mover advantage. It spent heavily on marketing from the start, making headlines by hosting a tournament with a $1m first prize, and offering punters the chance to qualify for a lucrative tournament cruise off the coast of Mexico. Last year its marketing budget was over $100m.

PartyGaming may benefit from network effects similar to those eBay enjoys: it is based on a many-to-many model for which the internet is ideally suited. The more people use the site, the wider the variety of games available at any one time, the more attractive the site becomes and the more trustworthy the company looks.

On the other hand, although scale may give PartyGaming some advantages, it is not immune from

competition. James Hipwell, editor of InsideEdge, a gambling magazine, wonders how loyal punters will be to a firm that rakes off at least 3% of every pot for itself, when rival firms offer to take a smaller slice. Dresdner expects PartyGaming's market share to dip below 50% this year.

And then there is the legal risk. Maybe 90% of PartyGaming's punters are Americans who are avoiding domestic prohibitions by betting offshore. PartyGaming argues that it is doing nothing illegal and that a recent ruling by the World Trade Organisation may yet cause America to loosen its rules on gambling.

Anyway, there may not be much that the American authorities can do to stop PartyGaming. It has no employees or assets or servers in America. It is headquartered in Gibraltar, a British offshore regulatory and tax haven. Although two of its four founders are American citizens (the other two are Indians) they live in Britain, now the gambling capital of the world. The Gambling Act 2005, which has just come into force, provides a strong legal footing for online excitements of all sorts, from internet poker to betting exchanges (in which customers bet against each other, rather than against a bookmaker). All of which, says PartyGaming's management, are reasons to be optimistic. Unless, of course, they are bluffing.

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Economist.com WORLD EUROPE

Human rights

British wrongs

Jun 9th 2005
From The Economist print edition

The Council of Europe gives Britain a mixed verdict on human rights

LIKE America, Britain has long prided itself on its human rights record. So a new report from Alvaro Gil-Robles, the Council of Europe's human rights commissioner, will come as a shock. While praising Britain's "generally impressive" record, it is damning about many specifics, including new anti-terrorist laws, ongoing efforts to control yobbish behaviour, the handling of asylum claims and the treatment of young offenders.

A respected former Spanish ombudsman and law professor, Mr Gil-Robles says that, right across Europe, there is a worrying tendency to see human rights as getting in the way of administering justice and protecting the public interest. Judging from his report, Britain is not doing much to reverse that trend. He found fault in three particular areas:

• **Fighting terrorism:** Mr Gil-Robles pointed out that the Terrorism Act 2000 was already one of the toughest anti-terrorist laws in Europe. He welcomed the decision to scrap a new, harsher bill in 2001 after the House of Lords rejected it as incompatible with basic rights. But he found that the Prevention of Terrorism Act 2005, brought in to replace it, was almost as bad.

Under the new law, "control orders" can be imposed on terrorist suspects by the home secretary. These allow similar sanctions to a full criminal offence, including house arrest—but without giving the accused the benefit of a trial. Such orders, he said, were clearly intended to "substitute the ordinary criminal justice system with a parallel system run by the executive". All control orders should be subject to judicial authorisation and, where necessary, a trial.

Moreover, he said, rather than allowing the orders to be renewed indefinitely, a 12-month time limit should be imposed, after which the orders should be lifted, unless the government could produce enough evidence to bring criminal charges. Evidence suspected of having been extracted under torture should never be relied upon.

• **ASBOs:** Anti-Social Behaviour Orders were neither fair nor effective, he said. Although designed to reduce urban nuisance, their main effect had been to bring large numbers of (mainly young) people into the criminal justice system and—often—to put them behind bars without their having committed any recognisable offence. He had serious concerns over how easily such orders were obtained, their scope and power, and the consequences of breaching them—up to five years in prison. Britain already has one of the highest rates of juvenile detention in the world, but it doesn't seem to do much good: 80% of young offenders who are given custodial sentences re-offend within two years**.**

• **Asylum-seekers:** Mr Gil-Robles was worried about increasing use of detention, weakened procedures, and a lack of social assistance. It was not acceptable that individuals "who have committed no crime and whose only fault has been to aspire to a better life" should suffer lengthy detention at the whim of the immigration service. He called for automatic judicial review of asylum cases after three months, with guaranteed legal assistance. He was "gravely concerned" that

appeals considered manifestly unfounded could only be lodged only from the applicant's home country, after they have been deported.

Mr Gil-Robles is the inaugural holder of his post, which, like the Council itself, has embarrassment as its main weapon. Since his appointment in 1999, his reports have made plenty of waves. Last month, President Vladimir Putin promised to do better after Mr Gil-Robles published a scathing report on Russia. British human-rights groups are hoping Tony Blair will do the same. So far, the government has simply said that it will consider the report carefully—while disputing its conclusions.

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The first lady

Cherie on the make

Jun 9th 2005
From The Economist print edition

Why Cherie Blair is more unpopular than Abu Hamza

"THE trail-blazing first lady of Downing Street", as her promoters like to characterise her, was reportedly paid around £30,000 ($55,000) this week to share her thoughts with a Washington audience. Cherie Blair returned home to a media outcry and accusations that she was exploiting her public role for private profit. If prime ministers' wives could quit, Mrs Blair would have faced calls for her resignation.

Officially, Mrs Blair has done nothing wrong. That is because, officially, she does not have much of a job at all. She is not a state employee, which means her job is not covered by the various codes that bind political figures.

But that's what has annoyed Britons. Although she has no official role, and so is not bound by the official rules, it seems unlikely that rich Americans would have paid to hear from her were she not Tony Blair's wife.

For a human-rights lawyer with four children and no dark stains on her character, Mrs Blair is remarkably unpopular. She recently topped a BBC radio poll of people who Britons most wanted ejected from their country, beating Abu Hamza, a fundamentalist Muslim cleric with a winning combination of dead eye and hook, by a good length.

Mrs Blair's problem is not just that she is the wife of a prime minister loathed by many Britons, but also that her judgment has proved to be dodgy in the past. In 1998, she was spotted wearing a new-age "bio-electric" pendant, said to contain magical crystals. A reputation for credulity was confirmed by news that she employed a "lifestyle guru" to advise on spiritual matters. The guru's ex-husband, an Australian swindler, claimed to have helped Mrs Blair purchase two flats at a discounted price. Having first denied any wrongdoing, she made a tearful public apology.

The Conservatives have called for rules covering ministers' conduct to be extended to spouses. But regulations seem an unnecessarily heavy-handed response to a rather small problem when any sensible prime ministerial consort would take care not to behave in a way that turned the electorate against their spouse. Perhaps painful experience will at last have taught Mrs Blair what the famously low-profile Denis Thatcher told the Duchess of York: "Whales get killed only when they spout."

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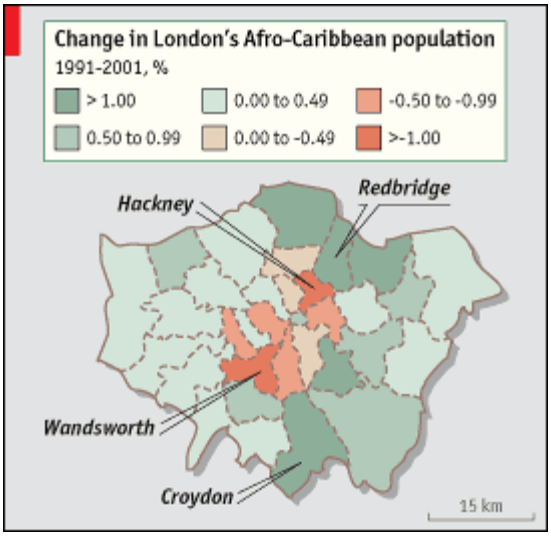
Afro-Caribbeans

The suburbs turn black

Jun 9th 2005 | REDBRIDGE
From The Economist print edition

Black Britons finally break into dreary neighbourhoods



ILFORD'S Apostolic Church had a small, mostly white congregation when John Jones became pastor in the mid-1990s. But the church has grown since then, and its complexion has changed. Although Mr Jones insists that his services are not pitched to African or Caribbean tastes—he merely describes them as “lively”—the regular worshippers are noticeably darker than they used to be. “Somehow, we have become a black church,” he says.

A similarly matter-of-fact change is evident on the streets of Redbridge, as it is in other districts on the fringes of London and Birmingham. While troubled inner-city neighbourhoods such as Brixton are usually taken to represent the authentic black experience, blacks themselves are abandoning such areas in favour of humdrum suburbs.

Thanks to an influx from the traditionally black boroughs of Hackney and Newham, there are now more Afro-Caribbeans in Redbridge than in the whole of Manchester. In south London, blacks are moving from Lambeth and Wandsworth to Croydon. Ceri Peach, an Oxford geographer, says that London's Afro-Caribbeans are becoming less segregated as a result. Their “dissimilarity index”, which reflects the percentage that would have to move in order to spread themselves evenly over the city's wards, fell from 56 to 39 between 1961 and 2001. These days, they are half as segregated as African-Americans in New York and Chicago.

The motivations for suburban flight are the usual ones—larger houses, better schools and somewhere to park the car. But blacks are particularly driven by fear of crime. All but one of the nine boroughs that experienced a net loss of Afro-Caribbeans between 1991 and 2001 suffer higher than average crime rates. But nine of the ten areas that they moved to in the greatest

numbers have below-average crime rates, and one of them (Harrow) is the safest borough in London.

Blacks have been able to move partly because they have clawed their way to better jobs: Afro-Caribbean women now earn more than the average for their sex, although the same is not true of Afro-Caribbean men. Another, accidental, reason is geographical. For more than a decade after blacks began to arrive in Britain in large numbers, they were excluded from public housing and occasionally from private rented accommodation too. By 1971, 44% had bought properties. Fortunately for them, many of those properties were in central neighbourhoods that have seen enormous price increases. They have profited much more than the Pakistani immigrants who bought houses in northern towns at the same time.

Many of those who fought their way into public housing, on the other hand, have become stuck in the inner city. Having been placed disproportionately in high-rise blocks, surrounded by criminality and malfunctioning schools, they lack the means of advancement. Black women's finances are not helped by a rate of lone parenthood that is more than twice the national average.

The lucky half who escaped that fate are a group apart, although they have not formed a self-conscious, American-style black middle class. Trevor Phillips, head of the Commission for Racial Equality, believes the newness of the suburban drift is one reason: for most, progress still means moving out of a black neighbourhood. Another reason is that Britain's most prominent Afro-Caribbean institutions—the black evangelical churches—are dominated by the urban poor. That has to do with the way the Caribbean was missionised: the hotter brand of Christianity gained most converts among the dispossessed, who then re-exported it to Britain.

The lack of communal solidarity worries Joyce Guy, who runs an Afro-Caribbean cultural and social group in Redbridge. She says that Somalis are more inclined to collective action, even though they are a more recent and poorer immigrant group. But perhaps that is the point. Collective action isn't quite the thing among those who have already made it.

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Private education

Economics lesson

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From The Economist print edition

Parents like private education—unless it starts behaving commercially

Get article background

THERE'S an attractive notion about, which surfaced in the Conservative Party's election manifesto, that new private-sector entrants could fundamentally change British education. And there are plenty of candidates. Sunny Varkey, a Dubai-based millionaire, has big ambitions and a fat chequebook. His company, GEMS, aims to set up a chain of more than 100 schools (and has 13 already). Cognita, chaired by the country's best-known educational critic, the former chief schools inspector Chris Woodhead, is backed by wealthy private investors and has bought 21 schools in six months. A third contender, Montague Place, has plenty of cash but so far just one school: it aims "to become the leading provider of independent education in the UK".

It's a tempting market. True, the existing independent schools, whose market share is around 7%, are almost all charities, which gives them some tax advantages. However, the privateers reckon that these are outweighed by managerial complacency. And about half of the parents of children at state schools say they would go private if they could afford it.

The existing for-profit operators are a handful of niche players, almost all offering premium-priced education in London. The new entrants are thinking bigger. Mr Varkey wants his school fees set around the £5,000 mark—roughly what the taxpayer pays per pupil in the state system. That could lead to a big shake-up.

But making the for-profit model work is proving hard. Cognita has been caught up in an embarrassing spat after offering a 30% fee discount for new pupils at two of its schools. Existing parents were furious: why should one sibling cost less than another? Mr Woodhead claims the scheme was misunderstood: it was aimed at helping gifted children from hard-up homes, rather than as an automatic discount. That, he argues, would have plenty of benefits: it would fill up 50-odd empty places, bringing in extra revenue. Also, educational research shows that rubbing shoulders with talented children is good for the rest. And having a wider social mix would benefit the school too, he argues.

Maybe so, but that is not what the parents were told. They simply saw adverts offering big discounts to new customers. Mr Woodhead agrees that the offer was mishandled. He is taking steps, he says, to find out the source of the "communications breakdown" and set it right. But as Cognita's only heavyweight education expert, it was arguably his job to get it right first time.

Cognita is also facing criticism from local state schools which are complaining that big business, in the form of Cognita, is "poaching" their pupils. Mr Woodhead points out, with some justice, that state-school children are not their head teachers' "possessions". Competition increases choice and drives up standards, he says.

Some whinges from the state sector are to be expected. And parents may get used to more

innovative pricing in time. But a more worrying sign for those wanting to expand for-profit education is the reaction to GEMS's only attempt so far to move into low-cost education, by raising class sizes from 14 to 18 at a school it owns in Milton Keynes. That infuriated parents. Some are saying they want to buy the school themselves. GEMS says it's not for sale.

Making the for-profit model work is proving hard

Given that staff costs make up around 70% of an independent school's budget, it is hard to see how a cost-cutting private operator will make money unless it uses teachers more economically. There are good educational reasons for teaching bright children in large groups: it helps focus attention for those who most need it. But parents seem unwilling to accept such changes when they think that bigger profits, not better education, are the motive.

If parents are one problem, the other is how to grow. There are few privately owned schools on the market—and operators like GEMS and Cognita have paid richly for those they have acquired so far. Taking charitable schools private is a legal headache. Setting up wholly new schools requires planning permission from local authorities, which is hard to gain. GEMS has been promising an imminent announcement of a school on a new greenfield site—its first—since January.

Coupled with continuing confusion over strategy, loss of senior staff and worries over Mr Varkey's colourful management style, some are wondering how long GEMS will stay afloat. A recent attempt to move into school management services seems to have gone nowhere. Its big hope now is that the government will give private operators more state schools to run.

It may be that the money in private education is only at the top of the market. That is Montague Place's strategy: it aims to buy schools and soup them up in order to charge more, rather than cut costs. That could be a good business idea. But it is not going to transform British education.

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Economist.com WORLD EUROPE

Economic slowdown

The worries intensify

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From The Economist print edition

One by one, the engines of demand are cutting out

Get article background

THE Bank of England kept interest rates at 4.75% on June 9th. The calm in monetary policy—rates have now been on hold for ten months—is deceptive. The economy grew by a below-trend 0.5% in the first quarter of 2005—the most sluggish pace in almost two years. There is mounting concern that the slowdown will persist.

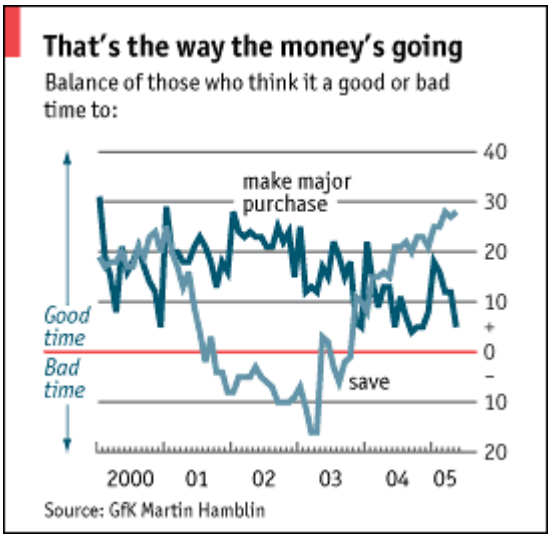
For the past nine years, robust and at times boisterous consumer spending has buoyed economic growth. But the consumer has gone on strike. In the last three months of 2004, household consumption—worth almost two-thirds of GDP—grew by a mere 0.2%. In the first quarter of 2005, it rose by only 0.3%.

Cries of distress from the high street point to further weakness in consumer spending in the second quarter. In April, trading conditions were the worst for at least ten years, according to the British Retail Consortium. They remained bleak in May, said the BRC this week. Its survey showed that the value of retail sales declined by 2.4% in the 12 months to May.

The source of the consumer slowdown does not lie in the labour market. Employment increased by 87,000 in the first quarter of 2005. Earnings are growing quite fast, at 4.6% a year. This suggests that the consumer strike is linked to the downturn in the housing market.

That downturn has been abrupt. According to the Halifax bank, house prices fell by 0.6% in May and are now lower than they were last September. This has dragged the annual rate of house-price inflation down from 20.5% in September to 5.7% in May, the lowest in four years.

There are signs that activity in the housing market is stabilising. Mortgage approvals for house purchase, which slumped to 77,000 in November, recovered to 95,000 in April. However, this was still lower than usual and a fifth down on transactions a year before. With the speculative froth blown out of the housing market, consumers are signalling their intention to tighten their belts and to save more (see chart).



The scale of the consumer slowdown has been an unpleasant surprise. But it would be less of a worry if other components of demand were expected to do better. With consumption so soggy, the economy will require a boost from exports and business investment if it is to expand at a respectable rate.

Unfortunately, the prospects for exports are deteriorating. Forecasts for growth in the troubled euro area, which purchases half of Britain's exports, have been tumbling. The OECD recently predicted that GDP in the single-currency zone would expand by just 1.2% this year, down from a tepid 1.8% in 2004.

After a long period of weakness, business investment grew by 5.5% last year. However, the recovery petered out in the final quarter of 2004 and in the first three months of 2005, business investment fell by 0.1%. Against a darkening economic background, companies look set to remain tight-fisted. According to a survey of over 1,000 firms published on June 6th by the Engineering Employers' Federation, investment plans are showing no sign of a pick-up.

Only one engine of demand is humming. Government expenditure will increase by 4.5% in 2005-06. However, the big stimulus to the economy from the government's splurge will end next spring. In 2006-07, public-spending growth will slow to 3.1%.

All this suggests that the period of calm in monetary policy will not last much longer. The Bank of England will want to see further evidence that recent economic weakness is more than a temporary soft spell. But it is looking more and more likely that the Bank will cut interest rates later this year—as the City now expects.

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Bagehot

Tony beats the drum for Africa

Jun 9th 2005
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Tony Blair's hopes for a successful summit are high, but he has only himself to blame if he gets no thanks

Get article background

THE uneasy grin on Tony Blair's face while George Bush fielded questions from British reporters at the White House press conference on June 7th said a lot. Having coaxed the president towards striking a deal at the Gleneagles G8 summit next month on a plan to give debt relief for Africa's poorest countries, the last thing he needed was the British press corps hectoring Mr Bush about America's supposed failings as an aid donor or as a delinquent hold-out against climate change.

No great harm was done. With Mr Blair's encouragement, Mr Bush put up a spirited defence of his administration's record in tripling the resources it gives to the fight against AIDS in Africa and the doubling of America's overseas aid budget since he came to office.

Although there is still plenty of room for things to go wrong, Mr Blair is growing confident that enough will be agreed at Gleneagles for him to be able to claim success. He accepts that America will have nothing to do with the aid-as-a-percentage-of-GDP targets to which the Europeans have now signed up. Nor will it contribute to Gordon Brown's International Finance Facility (IFF), the chancellor's much vaunted “Marshall Plan for Africa”, which is designed to speed up capital flows to recipients of aid. But he believes that Mr Bush is privately committed to doing more on direct aid than he is prepared to say, as well as being ready to write off the debt of 32 poor countries. Mr Blair even thinks he can persuade the Americans to move an inch or two on climate change.

If he does achieve this much through Britain's G8 presidency, Mr Blair will feel vindicated. Although he claims never to think about getting anything in return from Mr Bush for going to war with him in Iraq, he would argue that it is all of a piece. He has stuck firmly to the belief that if you want to do good on a large scale, there is no substitute for having America engaged and willing to do its (big) bit.

Mr Blair's determination to become Mr Bush's most trusted ally and personal friend is what gives him a degree of influence and leverage in Washington that no other G8 leader comes close to having. What has further helped Mr Blair's relationship is his instinct for talking to the president in the kind of evangelising, semi-religious lingo that gets through to him. Whereas the leaders of France and Germany seem only to know how to rub Mr Bush up the wrong way, Mr Blair has worked hard at learning how to bring out the best in him.

But even if Mr Blair does bring Mr Bush round, how much good will it do him? Late last year, when he announced that he was putting the plight of Africa and global warming at the top of his G8 agenda, he must have thought it would win him some credit with the people who most disliked his Iraq adventure. Despite his relative success this week in Washington, he will almost certainly be disappointed. There are two reasons why.

Mr Blair has worked hard at learning how to bring out the best in Mr Bush

The first is that most Britons made up their minds about Mr Bush a long time ago. He is the toxic Texan, interested only in helping those poor countries that are useful allies in his war on terror. Mr Blair can argue that Mr Bush is prevented from signing up to Mr Brown's IFF by laws restricting Congress's budgetary freedom. But, inevitably, comparisons will be made between America's stinginess and Europe's generosity. Whatever Mr Bush agrees to next month, it is likely to be interpreted in some British quarters as an ungrateful snub to Mr Blair, and a poor reward for years of devoted poodleism.

The second is that Mr Blair created difficulties for himself by taking on two such massive issues in the first place. By talking about ending poverty, he allowed hopes to grow unchecked regarding what could realistically be done in the six months between the beginning of Britain's Buggins's turn G8 presidency and the Gleneagles summit. Those close to Mr Blair say that “aiming high” was part of a deliberate strategy intended to mobilise a mass campaign to put pressure on other political leaders to go along with Britain's agenda. The result is the Make Poverty History (MPH) juggernaut, a campaign which states unequivocally on its website that Gordon Brown and Tony Blair “have the power and we can make them use it”. The strategy may have been deliberate, but it was also very risky.

Not only does MPH support notions of “fair trade” that are far removed from anything advocated by either Mr Blair or Mr Brown, but the hopes now being vested in Gleneagles are simply insupportable. The putative million-strong army of the mainly young, eager and well-meaning being mobilised to march on Edinburgh by Sir Bob Geldof is intent on turning the summit into a once-in-a-generation challenge to the leaders of the world's richest countries. Confronted by the modest progress that is the best that any such gathering can aspire to and the spin that will try (and fail) to bridge the gap between reality and expectation, Sir Bob's foot-soldiers are bound to be disillusioned and angry.

We've been here before

The odd thing about all this is that Mr Blair seems not to have learned from experience. Much of the decline in the government's popularity stems from its early addiction to overclaiming. When it didn't have much money to spend on improving services, it pretended that old money was new money. When it announced modest reforms that would take years to make an impact, it talked of “transformation” as if it was imminent. Mr Blair now acknowledges the seriousness of that mistake without realising that he is repeating it.

For all Mr Blair's sincerity and commitment, for all the difference his efforts may eventually make to the lives of some poor people, both he and Mr Brown will get stick for raising hopes that cannot be fulfilled. Mr Bush will also get his share of the blame. But then he never expected anything else.

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Economist.com PRINT EDITION TECHNOLOGY QUARTERLY

MONITOR

And now, a game from our sponsor

Jun 9th 2005
From The Economist print edition

Gaming: As young people spend less time watching television and more time online and playing games, advertisers have devised a new way to reach them

CROSS the popularity of a new medium with the demands of advertisers, and the result can be a whole new genre of entertainment. In the 1930s, the sponsorship of radio serials by makers of household-cleaning products led to the soap opera. Listeners were enthralled by episodic, melodramatic storylines, and advertisers were guaranteed a big audience. Today, the same thing is happening with another new medium. Video games have been crossed with advertising to produce a new genre: the advergame.

Where America's Army leads, Food Force follows

Advergames appeal to both advertisers and gamers alike. Advertisers face the problem that many young people are watching less television in favour of gaming and internet surfing. A report published last year by Nielsen, a market-research firm, found that time spent watching television was declining among American men aged 18-34, and was decreasing even faster among gamers of the same age. Given that internet users are finding ways to avoid pop-ups, flashing banners and spam, putting advertisements into games is an obvious way to reach them. Perhaps surprisingly, gamers seem to feel positive towards in-game advertising. Football, driving and other sports games look more realistic with real advertisement hoardings rather than generic ads for made-up products. And the popularity of many advergames suggests that gamers are evidently quite happy to put up with advertising in return for free entertainment—just as soap-opera fans were in the radio age.

In-game advertising is not new, but until recently it was limited to static product-placement, inserted rather awkwardly into console games, says Denise Garcia of Gartner, a consultancy. She estimates that less than 10% of console games carry such “embedded” ads, and they account for

a mere 0.25% of revenues at Electronic Arts, the world's biggest games publisher. In the long term, ads will be piped directly into games over the internet, allowing games publishers to update in-game advertisements as often as they want and to collect information about how in-game advertising is viewed. This may even lead to new, advertising-supported pricing models.

Today, however, few games consoles are connected to the internet. So while there is vast potential for in-game advertising on consoles, the near-term opportunity lies in advergames, which are specifically designed around advertising—the product is often the protagonist—and are either downloaded on to PCs or played inside web browsers. American firms spent around $90m last year on advergames, compared with $20m on in-game adverts and product placements, says the Yankee Group, a consultancy.

A successful early example of the genre was “America's Army”, an advergame first released as a recruitment tool in 2002 which is based on “Unreal”, a shoot-'em-up. This strikingly realistic war game, which covers basic training, tactical planning and a variety of missions, now has over 5m registered players. About 100,000 people download the game free every month. But advergames can promote peace as well as war, as a more recent example, “Food Force”, demonstrates. This advergame, launched in April by the United Nations World Food Programme, is intended to raise awareness of global hunger. Players are cast as emergency aid workers who must pilot helicopters, negotiate with rebels and help to rebuild communities.

Kris Oser, a video-game specialist at *Advertising Age*, an industry magazine, says old-style television, print and radio advertising “just throws brands at people”. Compare that with Dodge's advergame, “Race the Pros”, in which the company's cars can be driven to victory in a hyper-realistic simulation. Every Friday, real NASCAR race times are uploaded into the computer-controlled cars, and the track is dotted with the virtual billboards of dealerships close to the player (who must enter a zip code to take part). Such driving advergames also neatly sidestep rules that prohibit boasting about a car's top speed in TV adverts.

Richard Schlasberg, a Coca-Cola marketing manager based in Hellerup, Denmark, says the beverage-maker, long a fervent believer in television advertising, is now siphoning funds from its TV budget to maintain a regularly updated suite of games. A 30-second prime-time slot on American television can cost half a million dollars, whereas an advergame rarely costs more than $50,000 to develop and can be posted on the internet for months or years. Mr Schlasberg notes that, with television, potential drinkers just stare, briefly, at Coca-Cola. With advergames, consumers are “actually playing you”, he says, and they then associate the brand with fun.

The simple, browser-based games offered by Coca-Cola and other firms may not be as sophisticated as “America's Army”, but they have merits of their own. They are easy to access and do not require players to download an enormous installer file, so they are well suited to casual play in lunch hours or coffee breaks. Such games also have a broader appeal than traditional games. They can be found on mainstream websites, and nearly half of players are women.

Kimberly-Clark, a maker of feminine sanitary products, launched an advergame called “KT's Impossi-Bubble Adventures”. The game avoids mentioning tampons altogether—girls have to keep a brutish brother from reading their diaries. But after the game, they are ushered to a page that does discuss tampons. The advergame, put on line in mid-February, was played 500,000 times in its first six weeks. Given that it cost $25,000 to develop, that works out at a cost-per-play of just $0.05. Andy Stawski, a brand manager at Kimberly-Clark, says the game is having a significant effect on sales.

Advergames have been used in some unlikely ways. America's National Christmas Tree Association launched an advergame last year to promote real trees over plastic ones. In Britain, the Food Standards Agency launched a game called “Sid the Slug” to encourage people to eat less salt.

(This rankled the Salt Manufacturers' Association, which has been lobbying—so far in vain—to kill the game.) And excitement over the potential of advergames has led some would-be pioneers astray. Ian Bogost of Persuasive Games, based in Atlanta, dreams of building games that go “outside the sphere of entertainment” into “rhetorical tools”. One of his efforts is “Activism, the Public Policy Game”, which was paid for by the Democratic Congressional Campaign Committee. Alas, the slow-paced action of tax reform is neither motivating, fun, nor terribly educational.

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MONITOR

Diamonds that are a cut above

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Materials science: The combination of an expert system and a novel laser-cutting technique could boost the value of rough diamonds

WHILE a diamond may be for ever, its value is far from set in stone. It depends on the four Cs: carat, cut, colour and clarity. But while the first three can be measured objectively, assessing a diamond's clarity involves a certain amount of subjectivity and can leave experts disagreeing about the grade—and hence the value—of a stone. Now researchers at Cambridge University's Institute for Manufacturing claim to have devised a way to make the grading of diamonds and other precious stones more consistent. Tony Holden, the project's leader, says automating this process could do more than just lead to more accurate valuations. It could also make rough stones more valuable, by reducing the amount of waste during cutting.

Even a small improvement can yield a significant increase in value, says Dr Holden, who specialises in applying technology to improve decision-making in business. Together with his colleague Matee Serearuno, he has developed an optimisation system called iGem. Besides automatically working out the grade of a rough diamond, it also suggests how best to cut it in order to maximise the value of the resulting stones.

The system uses a set of rules, distilled from the judgments of four diamond experts, to determine the clarity, and hence the grade, of each stone. Each expert was asked to classify 503 different “virtual stones”—computer models of stones containing different types of flaws. The experts' verdicts were then boiled down into a set of rules, so that when a new gemstone is presented to the system, it can determine how the experts would probably have graded it. Data from more experts could have been used, but four proved to be enough to produce a robust and accurate system, says Dr Holden.

In actual use, the system is fed models of gemstones, which are produced by scanning the stones using a desktop X-ray tomography machine. When a stone is identified as a borderline case between two grades, the system uses an optimisation technique, called a genetic algorithm, to explore the different ways in which the stone could be cut to maximise its value. Sometimes bigger is not necessarily better: removing imperfections, known as inclusions, may reduce the size and caratage of a stone, but could also elevate it to a more valuable grade. Tests of iGem showed that it could increase the value of a rough stone by as much as 23%.

For over 600 years lapidarists, or stone-cutters, have been using essentially the same techniques to cut diamonds and determine their value, says Dr Holden. There is a great need for automation, he says—a sentiment echoed within the industry. The Gemological Institute of America, for example, is devising software to enable retailers and consumers to compare diamonds of different cuts by grading the cut automatically.

The next logical step is to automate the physical process of cutting the diamond, and Dr Holden seems to have found the ideal partner. He is talking to Calibrated Diamonds, a company based in Johannesburg, South Africa, about combining his optimisation techniques with an advanced laser-

cutting system. Traditionally, diamonds are cut and polished using other diamonds. But in recent years, lasers have been introduced to make rough cuts and to carry out “bruting”, the bevelling process used to give diamonds their characteristic sharp-edged shapes. John Bond, the founder of Calibrated Diamonds, says his laser-cutting method can make much more precise cuts and can even polish diamonds, though he is reluctant to explain how it works. He believes that combining his laser-cutting with Dr Holden's software, and automating the whole process, could both reduce waste dramatically and cut the turnaround time from months to days. “Currently, people are losing up to 70% of the diamond,” he says.

Mr Bond hopes that this combination of technologies will help his home continent to benefit more from its natural wealth. More than 60% of the world's rough diamonds come from Africa, he says, but a lack of expertise and relatively high labour costs means that the stones are usually shipped overseas, to countries such as India, for assessment and cutting. He hopes to have his first factory up and running later this year.

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MONITOR

Google, meet TiVo

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Search technology: The new frontier for search engines is to make video clips as easy to search as text. But that is more easily said than done

FINDING text is easy, but finding video is not. Imagine you wanted to find, say, the episode of “The Simpsons” in which Homer makes psychedelic chilli. Type those keywords into a search engine such as Google, and you will find testaments to its side-splitting humour—but not the episode itself. Not yet, anyway. Search is, however, coming to video. As it does, consumers will be able to type in a favourite line from a film and find it, says Suranga Chandratillake, co-founder of Blinkx, a video search-engine.

In anticipation, big websites such as Google, Yahoo! and AOL have started to offer basic video-search capabilities, and upstarts such as Blinkx and TVEyes (which has teamed up with Yahoo!) have popped up as well. The opportunity is immense—searching video content could create a web-based television network, just as Google uses its search engine to assemble a virtual web-based newspaper. It could also be helpful in digital video recorders (DVRs) such as the TiVo, by making programmes easier to access.

Here's the haystack—now find the needle

Searching video clips or streams is, however, much harder than searching text. There are three main approaches. The first, and simplest, is to search the closed captioning, or subtitles, that are broadcast alongside television programmes. In America, most television programmes already include captions; by law, all will have to do so starting in 2006. In Europe, captions should be broadly available by 2010. Such captions are not perfect, however, especially for live television, so searching using captions can be a hit-and-miss affair. The second approach uses software to “listen” to the video's soundtrack. Turning spoken dialogue into text requires fancy algorithms and is not always reliable, as anyone who has ever used a speech-recognition system can testify. But the resulting text is then simple to search. The third approach, called semantic tagging, involves applying tags to video clips, either manually or automatically. Tags may describe the genre of a clip, which actors appear in it, and so on. The tagged video can then be easily searched.

These three approaches are each used on their own or, more often, in conjunction with one another to analyse, label and then search through video content. Allen Weiner of Gartner, a consultancy, says the various methods work pretty well. The challenge is actually getting hold of video to search. “We're talking about content that does not originate on the web,” he says. That content is mostly locked up in the hands of broadcasters and studios, or on the hard disks of DVRs.

Still, the amount of available content is growing. Mr Chandratillake says his company has

catalogued about 70,000 hours of video, and adds about 200 hours a day. Karen Howe, who became AOL's vice-president of audio-video search after AOL acquired Singingfish, a company she founded, says it is not unusual to find 400,000 new streams a day (including audio). She says interest is growing, too—in a typical week, she notes, one in four people over 12 will view video content on the web.

The business model for all this is, however, unclear. Mr Weiner, who says the video-search drama is still in its first act, thinks it will follow the same model as television: whoever has the biggest audience wins. That suggests that the big portal websites, with their huge audiences, are in the best position. But many other opportunities could emerge for the technology. “I don't know if search is going to live in the television, if DVRs and TiVos are going to have smarts in them—or whether it's going to be at the head-end of the cable or satellite company,” says David Ivess of TVEyes.

There is at least one business model that works: real-time news indexing, the speciality of Critical Mention, a firm based in New York. It takes feeds from 66 television stations in America, works out what is being talked about, and then delivers clips over the internet to its clients, which are big companies interested in “reputation management”. They use the service as a form of early warning system for breaking news, and to see where their names are being mentioned.

What is striking is that despite all the buzz around video searches, none of these companies actually searches the visual content of the video. That is because actual video searching—finding all the clips that show a red car, perhaps, or George Bush—is an extremely complex problem. IBM, which is doing research in this area, is using a variety of techniques to determine the context of a clip: indoor, outdoor, sports and so on.

In February, IBM made a test version of its Marvel search engine available online. It uses a technique called “support vector analysis” to classify clips into particular categories, by scrutinising audio, video and transcribed speech. Having learned about a particular kind of content, it can then recognise it in future. It is, in short, a step towards an engine that can actually search video. IBM is working with CNN, the BBC and other broadcasters to assemble a library of clips on which to train the system. John Smith, a researcher in “intelligent information management” at IBM Research, thinks it could be ready for commercial use within two years. But searching video is one field where seeing really is believing.

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Home alone

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Technology and the elderly: The world's population is getting older. How can technology help old people live independently at home?

LIKE many middle-aged people these days, Edie Stern, who lives in New York, often finds herself worrying about an ageing parent. Her father, Aaron, is 87 years old and lives on his own in Florida, hundreds of miles away. “He's a very independent soul,” she says. Many people in Ms Stern's position feel torn: they want their parents to continue to live in their own homes and pursue their own lives, but are concerned about their parents' growing frailties. Unlike others, however, Ms Stern can at least feel she is doing something to help resolve this dilemma. As a researcher at IBM, a big computer firm, she is one of many people developing new technologies intended to make it easier, less stressful and even healthier for older folks to continue living at home.

Demand for such technologies could be enormous, since baby-boomers are on the cusp of retirement. About 10% of the world's population was 60 or older in 2000—but that figure will more than double to 22% by 2050. Some countries will be especially hard hit: 28% of the population in Italy and Japan will be over 65 by 2030. In the rich world, there will be two old people for every child by 2050.

Consider the daily chore of taking the right pills at the right time. As people grow older, the combinations of medicines they must take often become elaborate cocktails. Pills are easily confused and labels can be hard to read. So MedivoxRx Technologies, a division of Wizzard Software, based in Pittsburgh, has developed Rex, the talking pill bottle. Pressing a button on its base plays back spoken prescription information, stored in a microchip, through a miniature speaker. This information can either be generated automatically from prescription data, or recorded directly using a docking station: “Mum, take this arthritis pill for your shoulder pain, but not more than three times a day.” A new version of Rex, now in the pipeline, will warn if a bottle is opened too many times in a day.

Similarly, Bang & Olufsen's Medicom division is test marketing a device in several European countries that helps people remember how many pills they've taken. The Helping Hand device holds “blisterpacks”, those cards of pills packaged under individual bubbles of plastic. When it is medication time, Helping Hand beeps and flashes, and sensors track how many pills have been taken and when. A read-out indicates prescription compliance—a green light means the user is on track. Other products are still in the research labs, such as the system devised by Hewlett-Packard (HP) to let pharmacists print bar-codes directly on to pills. They can then be held up to a scanner the size of a coffee cup, which says out loud what the pill is and when to take it. A second device holds all of a person's pills and dispenses each one at the appropriate time.

Managing the chronic diseases that accompany old age, such as arthritis, diabetes and hypertension, involves more than just popping the right pills, however. Other new technologies focus on remote management of such chronic diseases. Health Hero Network, for example, has developed the Health Buddy, a dedicated computer that offers daily coaching for some 45 health

conditions. The latest version has a colour screen and ports for connecting medical sensors, such as a device for measuring diabetics' glucose levels. Used by American health-care organisations to look after over 5,000 chronically ill patients, the Health Buddy plugs into the phone and sends data between patient and doctor every day. A Japanese version is now in the works, and approval is pending in the Netherlands, a country with a particular enthusiasm for telemedicine. The firm plans a British launch too.

At IBM's research lab in Zurich, researchers are working on a mobile-health toolkit to link medical devices with wireless networks. Called mHealth, the kit could, for example, work with Bang & Olufsen's Helping Hand so that a forgotten pill triggers a mobile-phone call. HP, meanwhile, is working on wearable wireless sensors, the size of sticking plasters, that could be used for remote monitoring of heart activity and other information. The idea behind all of these monitoring systems is to allow old people to remain in their own homes for as long as possible, even when they are being treated for chronic illnesses, rather than moving into a nursing home.

Another category of devices monitor non-medical activities: Has Mum got up today? Did Dad have any breakfast? Lance Larivee, who works in the software industry and lives in Portland, Oregon, is testing a new system from Lusora, a start-up based in San Francisco. The Lusora Intelligent Sensory Architecture (LISA), which will go on sale later this year, is a collection of wireless devices including a wearable panic alarm and various monitoring devices that are placed around the home and detect motion, sound and temperature. Data from these devices can be accessed securely via the internet. So Mr Larivee can, for example, check online to see if his 87-year-old grandmother—who lives alone in Los Altos, California—has opened the refrigerator yet today.

Living Independently, a firm based in New York, last year began selling a similar system, called QuietCare, the development of which was funded in part by America's National Institutes of Health and Ageing. It too combines motion detectors with a secure website where customers can check activity. But the system is also backed up by ADT Security Services, a home-security firm. ADT is told what patterns of activity—or lack of activity—should trigger particular pre-determined responses, such as calling for an emergency doctor.

Such systems need not rely on elaborate cameras and sensors, however. Any electronic device that is central to the daily routine can potentially be used as a barometer of well-being. In Japan, over 2,200 people use the i-pot system devised by Zojirushi, Fujitsu and NTT. As its name suggests, the i-pot is an internet-connected kettle. Whenever it is used—which is several times a day in tea-loving Japan—it sends a wireless signal to a central server. Usage records can be checked on a secure website, and the pot also sends a twice-daily summary by e-mail to a family member or other designated recipient.

Back at IBM, Ms Stern is working on something called the Friends & Family Portal, which could tie many of these concepts together. Bringing together health updates, a listing of doctor's appointments, chronic disease data and other information, the portal is designed to house everything those concerned about an elderly person would want to know. A “buddy list” keeps everyone connected via e-mail or instant messaging. Ms Stern's father, for example, could upload his glucose readings to the portal so that his doctor in Florida, his daughter in New York and his son in Denver could all see that he is keeping his diabetes in check. Patients who know that other people are paying attention, says Ms Stern, are more likely to follow doctor's orders. “It's a virtuous circle,” she says.

While the demand for all these technologies seems certain to grow, this kind of monitoring inevitably raises the question of privacy—a prickly issue that has derailed other technologies in the past. Will the elderly tolerate a barrage of devices monitoring and tracking them, revealing everything down to when they had breakfast or last had a cup of tea? Richard Jones, the boss of Lusora, responds with a question of his own: “What's a greater loss of privacy than moving out of

your own house?” He has a good point.

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MONITOR

Anti-hurricane technology

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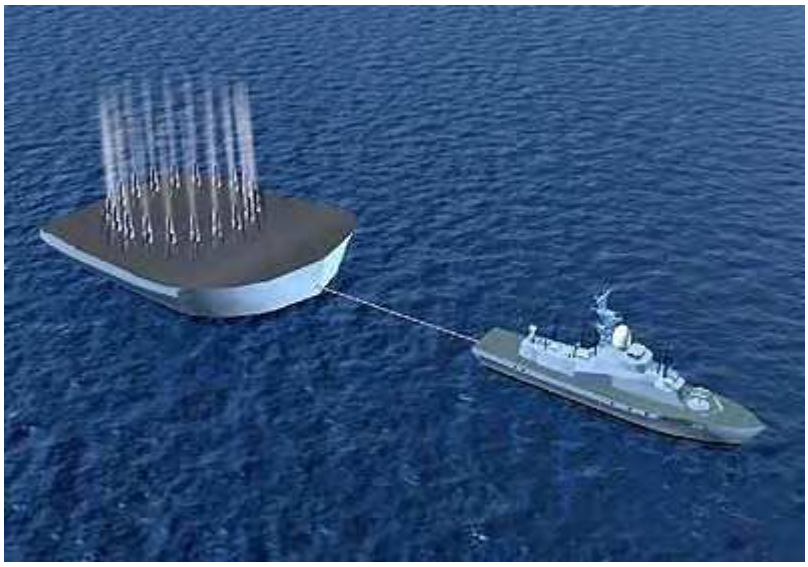

How can you slow down a hurricane? Moshe Alamaro, a scientist at the Massachusetts Institute of Technology, has a plan. Just as setting small, controlled fires can stop forest fires by robbing them of fuel, he proposes the creation of small, man-made tropical cyclones to cool the ocean and rob big, natural hurricanes of their source of energy. His scheme, devised with German and Russian weather scientists and presented at a weather-modification conference in April, involves a chain of offshore barges adorned with upward-facing jet engines. Each barge creates an updraft, causing water to evaporate from the ocean's surface and reducing its temperature. The resulting tropical storms travel towards the shore but dissipate harmlessly. Dr Alamaro reckons that protecting Central America and the southern United States from hurricanes would cost less than $1 billion a year. Most of the cost would be fuel: large jet engines, he observes, are abundant in the graveyards of American and Soviet long-range bombers.

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Walk this way

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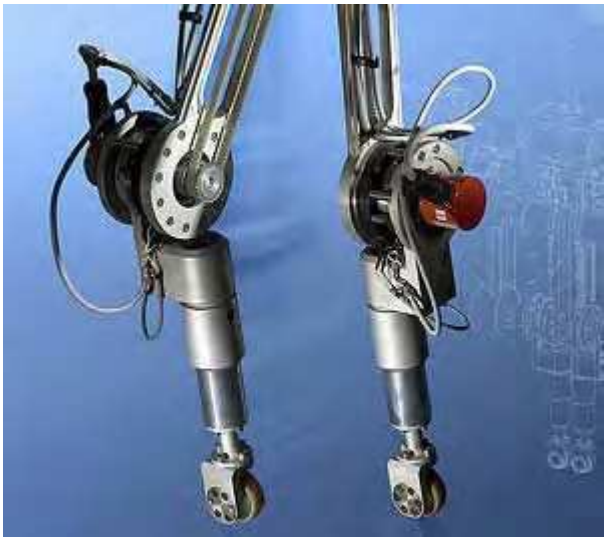

Robotics: Getting robots to walk gracefully on two legs is hard. But a new approach could make robots more elegant and versatile

IN RECENT years robots have gone through a rapid evolution: like their human creators, they have gone from crawling on the ground to walking upright on two legs. Indeed, the latest humanoid robots, such as Honda's Asimo and Sony's QRIO, can climb stairs, dance, run and jump. Even the most advanced robots, however, still cannot move with the grace, agility and flexibility of a human.

The problem with current robots is the “zero-moment point” (ZMP) algorithm that controls them, says Jessy Grizzle of the University of Michigan in Ann Arbor. Although ZMP can produce some impressive results, its design requires a low centre of gravity and flat feet, making it unable to emulate the speed and agility of a human gait or to cope with uneven surfaces. Both QRIO and Asimo walk in a crouched position, with their knees permanently bent in an awkward, constipated-looking manner. Their ability to climb stairs is the result of careful choreography and laborious mapping of the environment, says Dr Grizzle.

The ZMP algorithm results in motion that looks unnatural, says Dr Grizzle, because it has no bearing upon how humans actually walk. While taking a step, it requires that the supporting foot is flat on the ground so that balance can be achieved by exerting forces through the ankle joint. Keeping one foot flat in this way makes control of the robot relatively easy, at least in theory. A balance-of-forces calculation at the ankle joint determines the position of the shin, and the process is repeated at the knee to determine the position of the thigh, and so on.

The problem is that the complexity of the calculation grows, roughly speaking, in proportion with

the cube of the number of joints in the robot, which quickly becomes computationally unwieldy. This will make life increasingly difficult for the engineers in future as they attempt to add more complex behaviours to their robots' repertoires, says Russ Tedrake, an expert in bipedal locomotion at the Massachusetts Institute of Technology. Which is why a new algorithm devised by Dr Grizzle, called “hybrid zero dynamics” (HZD), is so clever. It simplifies the problem, producing reliable predictions for walking motions which can be applied across a range of robot designs.

Walking humans roll their weight forward from the heel to the ball of the supporting foot, says Dr Grizzle. But while pivoting on this supporting foot, they have no direct way to regulate the rate at which their bodies fall forward. The rate of fall can be regulated only indirectly, by artful positioning of torso and limbs, a skill exemplified by some humans' ability to walk on stilts. So Dr Grizzle designed his algorithm to work with robots that do not have feet or ankles, but simply have two rigid legs, like stilts. Together with Eric Westervelt, a doctoral student, he devised two simple equations. One describes the motion of any complex walking system as a form of inverted pendulum; the other describes how this inverted pendulum will move. The simplicity of these equations, and their ability to make very accurate predictions, ensure that the robot stays balanced.

Remarkably, Dr Grizzle does not have a robot of his own on which to test his algorithm. Instead, it was tested on a two-legged robot called Rabbit at the Laboratoire Automatique de Grenoble in France. Rabbit, it turns out, can walk and run, despite not having any feet. It can recover from being shoved, and can even carry a load equivalent to 30% of its own weight without much reprogramming.

To be fair, Honda's Asimo does not always require its feet to be flat, as the company points out. When Asimo is in its running mode, both its feet lift off the ground between strides. Dr Grizzle responds that it all depends on what you count as “running”. Asimo's steps are less than half the length of its feet, and both feet are off the ground for a mere five milliseconds, he notes. His algorithm produces motion that is far more faithful to the way humans run, with both feet off the ground for 100 milliseconds and a step length of over 60 centimetres. The result, in short, is robotic movements that are much less, well, robotic.

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A bridge too far?

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Materials science: As unlikely as it sounds, plastic is becoming an increasingly popular material from which to build bridges

BRIDGES must always be epic engineering projects involving years of construction work and vast amounts of steel and concrete, right? Wrong. New design and construction techniques mean that bridges can be put together in a matter of days—and they can even be made out of plastic. Consider the InfraCore bridge, a design launched in January by Composieten Team, a firm based in Rotterdam. The designers' goal was to shave months, or years, off the commissioning of new bridges, a process that typically entails lengthy rounds of sketching, specifying and contracting.

Standardising the design and production processes, says Jan Peeters, one of the engineers behind the new design, makes ordering a bridge as easy as buying a car. With a few clicks of the mouse, software adjusts the bridge “recipe” to a client's specifications. The bridge's size, colour, and options such as handrails are chosen on screen, and because engineers no longer need to design each bridge from scratch, the finished product can be delivered within a week. The lightweight plastic even floats, and a two-man crew can install a small bridge in a few hours.

This is just the latest example of the growing use of plastics in bridge construction. Bridges made of fibre-reinforced polymers have been around since the late 1990s, and several hundred plastic bridges now dot the globe, mainly in Europe and North America. They traverse everything from rivers and railways to industrial facilities and highways. Some are even tough enough to support a Sherman tank, as was theatrically demonstrated during the inauguration in 2002 of a road bridge in Shrivenham, England. Its 11-metre deck was made by Fiberline Composites, a Danish firm which, like Composieten Team, makes plastic bridges to order.

Plastic bridges have advantages over both concrete and steel ones. They require minimal maintenance during their lifespans (estimated at over 60 years for the InfraCore), whereas traditional bridges often need a costly overhaul after only a decade or two. Plastic bridges are

impervious to common problems such as corrosion, frost, mould and insects, which eliminates the need for special coatings. Adding a new composite deck can extend the life of an old bridge that would otherwise not be worth repairing. And plastic bridges can even be made from discarded coffee cups and detergent bottles: a 14-metre span built over New Jersey's Mullica River in 2002 consists of recycled polyethylene and polystyrene.

Technologically, says Mr Peeters, many of the plastic bridges that are now popping up around the world could have been built ten years ago. It has simply taken time for civil engineers—a naturally cautious bunch who are used to building bridges out of concrete, steel and wood—to come round to the idea of using plastic in bridge construction.

But enthusiasm for plastic bridges is now growing. In November, Fiberline supplied the materials for an all-composite traffic bridge in Klipphausen, near Dresden. Indeed, the former East Germany, notes Finn Jerno of Fiberline, was an unsung pioneer of the use of advanced plastics in construction. Five of Klipphausen's wooden bridges were destroyed in the massive European floods of 2002, and replacing the originals would probably have meant disruptive repair work every ten years. After considering the long-term costs, the mayor decided to build the new bridges using Fiberline's glass-fibre-reinforced plastic instead. The plastic design has another benefit, too: the next time catastrophic weather threatens, Klipphauseners can simply disassemble their new plastic bridges at a moment's notice—and then snap them back together once the storm has passed.

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Data with a human touch

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Computing: The idea of using the human body to interconnect electronic devices sounds like a gimmick—but could have its uses

DATA networks can take many forms. They can be constructed using towers with coloured flags, carrier pigeons, electric pulses travelling along wires, or bursts of laser light whizzing along optical fibres. But perhaps strangest of all is the idea of using the human body itself as a network. While it sounds bizarre, systems that use the body to link up different devices are already available—and they might even be quite useful.

First in line is Matsushita, a Japanese industrial giant. Last September it launched a “Touch Communication System” under the slogan “Data transfer via fingertips”. It allows users to pick up information from a device simply by touching it. The information is then stored in a compact gadget worn on a wristband, and is transferred when the user touches another device. Very weak currents are used to transmit data across the skin's surface, and the data-transfer rate, a mere 3.7 kilobits per second, is much slower than a dial-up modem.

Even so, Teraoka Seiko, a Japanese firm that makes measuring instruments, has begun to incorporate the technology into its line of electronic scales, registers and printers. The resulting keyless data-entry systems are being targeted at salesmen who handle bulk merchandise that is unsuitable for labelling with bar-codes, such as big chunks of meat and fish. The technology is on trial at several stores, says a Matsushita spokesman, and the company has high hopes for it. It plans to squeeze all the required circuitry on to a single chip by the end of the year.

Skinplex, devised by Ident Technology, a German start-up, is a similar system designed with security applications in mind. You carry a device with a unique identifying code on your body, perhaps embedded in your watch or glasses. The code is transmitted via your skin as soon as you touch a receiver, embedded in a car door, for example. This is more secure than a wireless key fob, says Stefan Donat of Ident, since the signal cannot be intercepted by a nearby eavesdropper.

As well as having potential security advantages, transmitting data from one device to another via the user's skin also sidesteps the problem of radio interference as other “personal-area network” devices, based on the established Wi-Fi and Bluetooth wireless technologies, proliferate. So why is the technology not more popular? For one thing, it is still quite new: Microsoft was awarded its patent for skin-based data transmission only in June last year, for example. Another problem is the need to maintain direct contact with multiple devices. Sending music to a set of headphones via the skin makes sense—but means that the music-player must be touching the skin too. And health worries over mobile phones and other sources of radiation mean that people are not quite ready to accept the idea of signals being transmitted via skin, says Thomas Zasowski, a researcher at the Swiss Federal Institute of Technology in Zurich. Besides, the data rates achievable may simply be too low.

Many of these drawbacks are being addressed by NTT, Japan's telecoms giant. Instead of passing an electric current through the skin, its “RedTacton” technology, announced in February, works by

inducing tiny fluctuations in the body's existing, but very weak, electric field—in much the same way that a radio modulates a carrier wave to transmit sound. This means that the transmitter need not be in direct contact with the skin, but can be in a pocket or purse: the technology works through multiple layers of clothing, up to 20 centimetres from the body. The receiver is based around an electro-optic crystal, the optical properties of which change in sympathy with the body's electric field. These variations are detected by a laser and an optical sensor, and the transmitted data can then be extracted. NTT says a data rate of 10 megabits per second is possible, making the user's body equivalent in capacity to an office Ethernet network.

The technology could have all sorts of uses, since it also works with inanimate objects such as walls, floors, furniture and even water. Music could be transmitted from your PC to a music-player in your pocket when you sit down at your desk, for example; or you could unlock a door by touching it. NTT boasts that there is no need to insert smart cards or mess around with cables to get two RedTacton devices to talk to each other.

Ian Pearson, a futurologist at BT, Britain's incumbent telecoms firm, says the future for body-based communications looks good. Eventually, he says, it will be possible to make very sophisticated devices that live in or on a person's skin, and that talk both to each other and to other, nearby devices outside the body. Just as the roll-out of broadband internet access depends on bridging the “last mile” between telephone exchange and subscriber, human-body networking could carry data across the “last metre”.

Well, maybe. “Whether using the electric field of the body to transmit bits will be compelling is really open,” says Gordon Bell, a senior researcher at Microsoft's Bay Area Research Centre in San Francisco. “I'm a bit sceptical.” But we won't know for at least five years, he adds, since it will take time for a standard to emerge. That raises the question of what the standard will be called. Wi-Skin, perhaps, or Body-Fi, or Blueskin?

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MONITOR

From dumb pipes to smart sensors

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Materials science: Optical fibres are widely used to pipe data around at high speeds. But fibre optics can be used as sensors, too

FIBRE optics are most commonly associated with communications—and with the telecoms crash that followed when too many firms built too many identical fibre-optic networks, and the traffic to fill them never materialised. But fibre optics can do more than just act as pipes for transporting data; they can also be used as sensors that can gather data. Compared with electrical sensors, they are smaller, cheaper, longer-lasting and can operate at much higher temperatures (600°C rather than 125°C). And unlike electrical sensors, fibre-optic sensors are not susceptible to electromagnetic interference and can therefore be reliably used in power plants, magnetic-resonance imaging laboratories and other situations where such interference abounds.

Fibre-optic sensors are not new—they have been around since Corning Glass and Bell Labs first started developing optical fibres for the telecoms industry back in the 1960s. But a happy consequence of the telecoms boom is that prices have tumbled, so fibre-optic sensors can be used more widely, and in new ways.

The most common type of fibre-optic sensor in use today is called a “Bragg grating”, which is the fibre-optic equivalent of a strain gauge. A Bragg grating is a region of a fibre where the refractive index has been modified so that it varies in a precise, periodic way. This causes the grating to reflect light of a specific wavelength (ie, a specific colour). As the fibre is stretched or compressed, the wavelength that is reflected then changes accordingly, and the strain can be determined. Changes in temperature also change the fibre's properties in predictable ways. By incorporating several Bragg gratings into a single fibre, each tuned to reflect a different wavelength, it is possible to measure the variations in strain or temperature along the fibre's length.

Bragg gratings are used to measure strain in things like turbine blades, and are now cheaper than conventional strain gauges. Indeed, fibre-optic sensors are replacing electrical sensors in many areas of engineering, science and medicine. But Julian Jones, a professor of engineering optics at Heriot-Watt University in Edinburgh, says that the spread of this technology from the laboratory into everyday use has barely begun. In collaboration with researchers at Aston University and the University of Sheffield, he is currently working on several new types of fibre-optic sensor.

The first is a fibre with multiple cores, an idea that was originally intended to increase fibre-optic capacity, but which was soon abandoned. Dr Jones found that such fibres can be used not just to measure strain, but also to measure the degree of bend and its direction. Bragg gratings are etched into each core of a four-core optical fibre. When the fibre bends, some of the gratings are stretched and others are compressed, and the wavelengths they reflect change accordingly. It is then possible to calculate the direction and the angle of bend. This approach is ideal for monitoring structures such as aircraft wings and yacht masts, and a single fibre can do the work of hundreds or even thousands of electrical sensors, says Dr Jones.

Another new type of sensor is based on a conventional optical fibre, the end of which has been

modified in various ways. In one example, a small hole, just an eighth of a millimetre in diameter, is drilled into the end of a fibre using a high-powered laser. A copper membrane is applied, creating a small air cavity inside the fibre. The optical properties of the fibre then vary depending on the pressure differential across the membrane. The result, says Dr Jones, may be the fastest reacting pressure sensor ever made: it is ideal for measuring such things as blast waves. “In the current climate, there's a huge demand for technology which could help to design bomb-proof buildings,” he says. Data gathered using these sensors in explosion experiments can show how blast waves interact with structures, leading to a better understanding of blast damage and its mitigation.

Researchers at the Centre for Photonics Technology at Virginia Tech, in Blacksburg, Virginia, are pursuing a similar approach. They have also developed new ways to get a single fibre to function as a very large number of independent sensors. In one experiment, Anbo Wang and his colleagues demonstrated a technique that can read 1,000 different Bragg gratings along a single fibre.

A very short laser pulse is launched into the fibre, and each grating reflects a small amount of the pulse. Reflections from nearby gratings arrive sooner than those from gratings at the far end of the fibre, and the intensity of each reflection reveals the local temperature or strain. Analysis of the timing and intensity of the reflections results in a temperature or strain profile for an entire bridge, dam or pipeline from a single embedded fibre sensor. Optical fibres have already slashed the cost of communications. Evidently their ability to reduce costs while delivering ever-increasing amounts of data extends to sensing, too.

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MONITOR

Flash and carry

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Computing: Flash drives, which allow huge amounts of data to be carried around easily, are changing from geek toys into fashion items

STRANGE but true: memory chips have become fashion items. Well, sort of. Flash drives—also known as thumb, key, pen or jump drives—which can store megabytes of data, and are simply slotted into a computer's USB port, have displaced old-fashioned floppy disks as the easiest way to carry your data around. As flash drives become more popular among students and business people, and not just computer-support staff, more attention is being paid to their design. Some people have even taken to wearing their flash drives around their necks, like jewellery—a trend boosted by the launch earlier this year of Apple's iPod Shuffle, the flash-drive version of its iconic and fashionable music-player.

Getty Images

The iPod Shuffle, prêt à porter

According to the USB Flash Drive Alliance, an industry body based in Silicon Valley, flash-drive necklaces are most popular among men in wealthy Asian countries. The bestselling models in Asia are cute and shiny with brightly contrasting colours. SanDisk, a firm based in Sunnyvale, California, that pioneered flash drives, recently launched new models with vibrantly coloured rubber casings, which are selling briskly in Asia. Other decorative casings are on the way. Mike Morgenstern, a marketing manager at SanDisk, says the “coolness factor” of customisable mix-and-match covers is currently driving sales, and he should know: SanDisk's products account for nearly half of all flash drives sold.

Rappers and hip-hoppers bear some responsibility for the rise of the wearable flash drive. Their enthusiasm for heavy, metallic neckwear made it acceptable for men—who own 80% of flash drives—to wear chunky pendants. But flash drives aimed specifically at women are on the way

too. PNY, a New York-based manufacturer with a product line that includes a flash drive hidden inside a pen, will launch a collection this autumn of drives with “feminine” shapes, colours and materials. “A fashionable drive needs to be shown off,” says Stephane Rouveyrol of PNY. Similarly, Maastrek, a firm based in Hildesheim, Germany, that already sells flash drives built into watches, is designing a line of flash-drive earrings and bracelets, and a series of necklaces in the shapes of tigers, birds and fish. They will go on sale later this year.

The flash-drive market is now worth about $4 billion annually, and it is roughly doubling in size every year, according to Rafael Achaerandio of IDC, a market-research firm. He says the technology is a fun first step toward the electronic clothing and wearable computers of the future. Much of the growth is coming from business people. Rather than handing out bulky folders of sales material, they now dish out cheap flash drives instead, preloaded with electronic files and emblazoned with company logos.

The latest flash drives can store four gigabytes of data, though 512-megabyte drives, which cost around $50, are more common. Weighing slightly more than a pen, a 512-megabyte flash drive can store about 15 albums or ten music videos. The “flash memory” technology that gives flash drives their name does not require battery power to preserve its contents. Unlike floppy disks, flash drives slip easily into a pocket, and are far more robust. SanDisk's Titanium drive can survive being driven over by a car, and weathers the washing machine, too, in spite of its retractable but unsealed connector.

For the cognoscenti, a flash drive serves as an invitation to share and provides an easy way to exchange music or photos. Roland Mouret, a French designer who has incorporated laptops into fashion collections, says flash drives are giving mobile urbanites the opportunity to absorb culture wherever they go. Even so, Cathleen Laporte, president of the Black Fashion Designers Association in New York, says that flash drives have yet to hit catwalks on either side of the Atlantic.

Fashion-conscious Italians, however, are not so keen on the technology. Kim Coston, who teaches at Polimoda, a fashion school in Florence, says Italians prefer not to exhibit what they consider to be a symbol of American corporatism. But Italy aside, the flash drive is undeniably—and unexpectedly—moving from geek toy into the realm of fashion.

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Economist.com PRINT EDITION TECHNOLOGY QUARTERLY

RATIONAL CONSUMER

Why radio is worth watching

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Consumer electronics: Digital radio broadens choice for listeners and opens up new possibilities for broadcasters

TELEVISION has changed dramatically in recent years. You can now sit down in front of a wide, flat-panel screen, and call up hundreds of channels in an instant. You can pause and rewind live broadcasts and record every episode of your favourite programme using a personal video recorder (PVR) such as a TiVo. And in some parts of the world “video on demand” services enable viewers to call up programmes when they want to watch them, rather than when broadcasters decide to transmit them. All this has been made possible by digital technology, which has visibly transformed television. At the same time, however, a similar—if less remarked upon—transformation is under way in radio. It is going digital too.

The latest digital radio receivers, launched this month in Britain, feature TiVo-style pause, rewind, programme guide and timed recording functions. Some digital-satellite receivers, which are becoming increasingly popular in America, also offer pause, rewind and recording features, as well as access to dozens of channels. Such features will become commonplace as sales of digital radios increase, from 4m receivers in 2004 to an estimated 23m units in 2008, according to figures from In-Stat, a market-research firm. In Britain, sales of digital receivers have overtaken sales of analogue radios, according to Dixons, a retail chain.

Different digital-radio technologies are being deployed in different parts of the world. Outside the United States, the leading standard is called DAB. It is already popular in Britain, Germany and Canada, and is spreading in Europe and Asia. DAB signals are transmitted separately from conventional analogue FM signals, but many receivers can switch to a station's FM signal in the event of the digital signal being lost (in a moving car, for example).

In America, there are two kinds of digital radio: subscription-based digital satellite services (XM and Sirius) and a technology called HD Radio that allows digital signals to piggyback on standard FM transmissions. Satellite radio now has around 5m subscribers and can be found in 4% of households, and the number is more than doubling each year. The growing clout of satellite radio is illustrated by its exclusive content deals, such as those struck by XM with Major League Baseball, and by Sirius with Howard Stern.

Then there is an emerging global digital-radio standard called Digital Radio Mondiale (DRM), which uses digital encoding to deliver near-FM audio quality in the long-wave and medium-wave frequency bands, which have a far longer reach than FM signals. DRM transmissions are already under way in some parts of the world, though receivers are still expensive, as DAB receivers were initially. But cheaper DRM radios are on the way.

Finally, digital radio can also be delivered via the internet, in the form of audio streaming. According to figures from Forrester, a consultancy, 16% of American households have listened to streaming audio online. The latest twist is podcasting, the audio equivalent of blogging, which allows anyone to post audio files online for downloading by others.

Tuning in to the future

All of this means greater choice and control for listeners, says Michelle Abraham of In-Stat. Digital radio offers better sound quality than analogue, and its more efficient use of the airwaves means there is room for more channels, and hence greater variety. (XM and Sirius offer dozens of genre-specific music channels, for example.) Digital-radio listeners tend to be more promiscuous in their listening habits, says Andrew Moloney of RadioScape, a British firm that develops digital-radio technology. Since it is easier to flick between stations—some radios even have a “back” button for quick switching—listeners do more channel-hopping.

As well as improving quality and choice, digital radio can do things that analogue cannot. Music stations can transmit artist and track information, and news stations can transmit scrolling headlines to the radio's screen. Digital also allows radio stations to broadcast multiple streams, which appear as sub-channels on the tuning menu. In future, car radios could store a traffic bulletin in memory and play it back when the driver hits a “traffic news” button, says Ms Abraham. Forthcoming radios with colour screens could display a map during the weather forecast, or a sponsor's logo during a particular show. “When the advertising guys get hold of this, goodness knows what will happen,” says Mr Moloney.

Broadcasters and advertisers are, says Ms Abraham, rubbing their hands at the new business models made possible by digital. Satellite radio has demonstrated that subscription-based charging can work in radio, as it does in TV. More targeted channels, sub-channels and online channels will allow broadcasters to reach specific audiences more easily, which should enable them to charge more for advertising. And the ability to send other forms of data alongside audio means that broadcasters could, for example, deliver mobile-phone ringtones or discount coupons alongside particular shows: only by listening to the whole programme can you receive the download, which can then be transferred from the radio to your mobile phone. There is even talk of using global-positioning technology in digital receivers to deliver adverts specific to the listener's location.

There is a paradox here, observes Ted Schadler of Forrester. Broadcasters see digital as an opportunity to increase advertising revenue, but the success of satellite radio in America is partly the result of listeners' desire to escape from advertising: many satellite music channels are ad-free. “Consumers say they hate advertising, but they also say they won't pay enough to make it go away,” he says. Digital radio will offer a wider range of choices, however, and “consumers will pick the business model that gives them the programming they want at the lowest cost.” Charging more for advertising depends on attracting specific audiences, and that will require investment in better programming, says Mr Schadler. So as radio goes digital, choice will improve—and both listeners and broadcasters ought to be able to get more of what they want.

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REPORTS

Technology that imitates nature

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Biomimetics: Engineers are increasingly taking a leaf out of nature's book when looking for solutions to design problems

AFTER taking his dog for a walk one day in the early 1940s, George de Mestral, a Swiss inventor, became curious about the seeds of the burdock plant that had attached themselves to his clothes and to the dog's fur. Under a microscope, he looked closely at the hook-and-loop system that the seeds have evolved to hitchhike on passing animals and aid pollination, and he realised that the same approach could be used to join other things together. The result was Velcro: a product that was arguably more than three billion years in the making, since that is how long the natural mechanism that inspired it took to evolve.

Velcro is probably the most famous and certainly the most successful example of biological mimicry, or “biomimetics”. In fields from robotics to materials science, technologists are increasingly borrowing ideas from nature, and with good reason: nature's designs have, by definition, stood the test of time, so it would be foolish to ignore them. Yet transplanting natural designs into man-made technologies is still a hit-or-miss affair.

Engineers depend on biologists to discover interesting mechanisms for them to exploit, says Julian Vincent, the director of the Centre for Biomimetic and Natural Technologies at the University of Bath in England. So he and his colleagues have been working on a scheme to enable engineers to bypass the biologists and tap into nature's ingenuity directly, via a database of “biological patents”. The idea is that this database will let anyone search through a wide range of biological mechanisms and properties to find natural solutions to technological problems.

How not to reinvent the wheel

Surely human intellect, and the deliberate application of design knowledge, can devise better mechanisms than the mindless, random process of evolution? Far from it. Over billions of years of

trial and error, nature has devised effective solutions to all sorts of complicated real-world problems. Take the slippery task of controlling a submersible vehicle, for example. Using propellers, it is incredibly difficult to make refined movements. But Nekton Research, a company based in Durham, North Carolina, has developed a robot fish called Madeleine that manoeuvres using fins instead.

In some cases, engineers can spend decades inventing and perfecting a new technology, only to discover that nature beat them to it. The Venus flower basket, for example, a kind of deep-sea sponge, has spiny skeletal outgrowths that are remarkably similar, both in appearance and optical properties, to commercial optical fibres, notes Joanna Aizenberg, a researcher at Lucent Technology's Bell Laboratories in New Jersey. And sometimes the systems found in nature can make even the most advanced technologies look primitive by comparison, she says.

The skeletons of brittlestars, which are sea creatures related to starfish and sea urchins, contain thousands of tiny lenses that collectively form a single, distributed eye. This enables brittlestars to escape predators and distinguish between night and day. Besides having unusual optical properties and being very small—each is just one-twentieth of a millimetre in diameter—the lenses have another trick of particular relevance to micro-optical systems. Although the lenses are fixed in shape, they are connected via a network of fluid-filled channels, containing a light-absorbing pigment. The creature can vary the contrast of the lenses by controlling this fluid. The same idea can be applied in man-made lenses, says Dr Aizenberg. “These are made from silicon and so cannot change their properties,” she says. But by copying the brittlestar's fluidic system, she has been able to make biomimetic lens arrays with the same flexibility.

Another demonstration of the power of biomimetics comes from the gecko. This lizard's ability to walk up walls and along ceilings is of much interest, and not only to fans of Spider-Man. Two groups of researchers, one led by Andre Geim at Manchester University and the other by Ron Fearing at the University of California, Berkeley, have independently developed ways to copy the gecko's ability to cling to walls. The secret of the gecko's success lies in the tiny hair-like structures, called setae, that cover its feet. Instead of secreting a sticky substance, as you might expect, they owe their adhesive properties to incredibly weak intermolecular attractive forces. These van der Waals forces, as they are known, which exist between any two adjacent objects, arise between the setae and the wall to which the gecko is clinging. Normally such forces are negligible, but the setae, with their spatula-like tips, maximise the surface area in contact with the wall. The weak forces, multiplied across thousands of setae, are then sufficient to hold the lizard's weight.

Both the British and American teams have shown that the intricate design of these microscopic setae can be reproduced using synthetic materials. Dr Geim calls the result “gecko tape”. The technology is still some years away from commercialisation, says Thomas Kenny of Stanford University, who is a member of Dr Fearing's group. But when it does reach the market, rather than being used to make wall-crawling gloves, it will probably be used as an alternative to Velcro, or in sticking plasters. Indeed, says Dr Kenny, it could be particularly useful in medical applications where chemical adhesives cannot be used.

While it is far from obvious that geckos' feet could inspire a new kind of sticking plaster, there are some fields—such as robotics—in which borrowing designs from nature is self-evidently the sensible thing to do. The next generation of planetary exploration vehicles being designed by America's space agency, NASA, for example, will have legs rather than wheels. That is because legs can get you places that wheels cannot, says Dr Kenny. Wheels work well on flat surfaces, but are much less efficient on uneven terrain. Scientists at NASA's Ames Research Centre in Mountain View, California, are evaluating an eight-legged walking robot modelled on a scorpion, and America's Defence Advanced Research Projects Agency (DARPA) is funding research into four-legged robot dogs, with a view to applying the technology on the battlefield.

Madeleine, a swimming robot modelled on a fish

Having legs is only half the story—it's how you control them that counts, says Joseph Ayers, a biologist and neurophysiologist at Northeastern University, Massachusetts. He has spent recent years developing a biomimetic robotic lobster that does not just look like a lobster but actually emulates parts of a lobster's nervous system to control its walking behaviour. The control system of the scorpion robot, which is being developed by NASA in conjunction with the University of Bremen in Germany, is also biologically inspired. Meanwhile, a Finnish technology firm, Plustech, has developed a six-legged tractor for use in forestry. Clambering over fallen logs and up steep hills, it can cross terrain that would be impassable in a wheeled vehicle.

Other examples of biomimetics abound: Autotype, a materials firm, has developed a plastic film based on the complex microstructures found in moth eyes, which have evolved to collect as much light as possible without reflection. When applied to the screen of a mobile phone, the film reduces reflections and improves readability, and improves battery life since there is less need to illuminate the screen. Researchers at the University of Florida, meanwhile, have devised a coating inspired by the rough, bristly skin of sharks. It can be applied to the hulls of ships and submarines to prevent algae and barnacles from attaching themselves. At Penn State University, engineers have designed aircraft wings that can change shape in different phases of flight, just as birds' wings do. And Dr Vincent has devised a smart fabric, inspired by the way in which pine cones open and close depending on the humidity, that could be used to make clothing that adjusts to changing body temperatures and keeps the wearer cool.

From hit-and-miss to point-and-click

Yet despite all these successes, biomimetics still depends far too heavily on serendipity, says Dr Vincent. He estimates that there is only a 10% overlap between biological and technological mechanisms used to solve particular problems. In other words, there is still an enormous number of potentially useful mechanisms that have yet to be exploited. The problem is that the engineers looking for solutions depend on biologists having already found them—and the two groups move in different circles and speak very different languages. A natural mechanism or property must first be discovered by biologists, described in technological terms, and then picked up by an engineer who recognises its potential.

This process is entirely the wrong way round, says Dr Vincent. “To be effective, biomimetics

should be providing examples of suitable technologies from biology which fulfil the requirements of a particular engineering problem," he explains. That is why he and his colleagues, with funding from Britain's Engineering and Physical Sciences Research Council, have spent the past three years building a database of biological tricks which engineers will be able to access to find natural solutions to their design problems. A search of the database with the keyword "propulsion", for example, produces a range of propulsion mechanisms used by jellyfish, frogs and crustaceans.

The database can also be queried using a technique developed in Russia, known as the theory of inventive problem solving, or TRIZ. In essence, this is a set of rules that breaks down a problem into smaller parts, and those parts into particular functions that must be performed by components of the solution. Usually these functions are compared against a database of engineering patents, but Dr Vincent's team have substituted their database of "biological patents" instead. These are not patents in the conventional sense, of course, since the information will be available for use by anyone. By calling biomimetic tricks "biological patents", the researchers are just emphasising that nature is, in effect, the patent holder.

One way to use the system is to characterise an engineering problem in the form of a list of desirable features that the solution ought to have, and another list of undesirable features that it ought to avoid. The database is then searched for any biological patents that meet those criteria. So, for example, searching for a means of defying gravity might produce a number of possible solutions taken from different flying creatures but described in engineering terms. "If you want flight, you don't copy a bird, but you do copy the use of wings and aerofoils," says Dr Vincent.

He hopes that the database will store more than just blueprints for biological mechanisms that can be replicated using technology. Biomimetics can help with software, as well as hardware, as the robolobster built by Dr Ayers demonstrates. Its physical design and control systems are both biologically inspired. Most current robots, in contrast, are deterministically programmed. When building a robot, the designers must anticipate every contingency of the robot's environment and tell it how to respond in each case. Animal models, however, provide a plethora of proven solutions to real-world problems that could be useful in all sorts of applications. "The set of behavioural acts that a lobster goes through when searching for food is exactly what one would want a robot to do to search for underwater mines," says Dr Ayers. It took nature millions of years of trial and error to evolve these behaviours, he says, so it would be silly not to take advantage of them.

Although Dr Vincent's database will not be capable of providing such specific results as control algorithms, it could help to identify natural systems and behaviours that might be useful to engineers. But it is still early days. So far the database contains only 2,500 patents. To make it really useful, Dr Vincent wants to collect ten times as many, a task for which he intends to ask the online community for help. Building a repository of nature's cleverest designs, he hopes, will eventually make it easier and quicker for engineers to steal and reuse them.

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REPORTS

Models that take drugs

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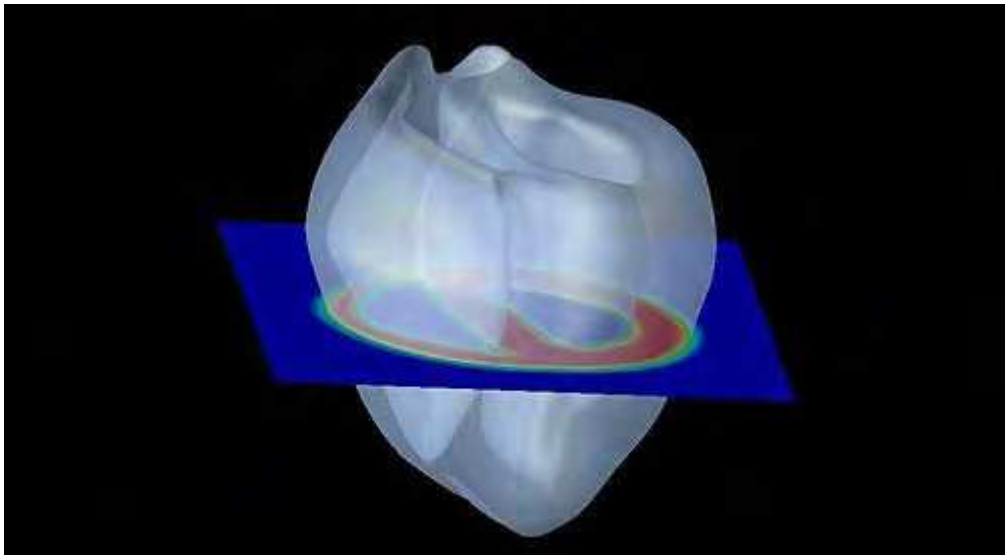


Biosimulation: Designing drugs in computers is still some way off. But software is starting to change the way drugs are tested

FIVE years ago, when the first draft of the human genome was unveiled and the dotcom boom was in full swing, hopes were high for the union between biology and computing. The deluge of genomic information would, the theory went, be funnelled into powerful computers, which would then be able to model biological systems, figure out how they went wrong, and design drugs to fix them. Test-tubes would give way to microchips; biology would go from “in vitro” to “in silico”.

All of this promised to benefit not just the health of patients, but of drug companies too, by improving the predictability, and hence the economics, of drug development. It would prevent costly—sometimes tragic—surprises late in clinical trials, or worse, long after drugs had reached the market. In other industries, after all, computerised models and simulations of new products are commonplace. Chipmakers simulate new designs before committing them to silicon; non-existent cars can be driven and aircraft flown in virtual reality. But none of this can be said of the drug industry, which may explain why it spends nearly 25% of its revenues on research and development, or about twice as much as most high-tech industries.

Worse, as the industry spends more, it seems to get less. According to an oft-quoted figure from the Tufts Centre for the Study of Drug Development, in Medford, Massachusetts, developing a drug typically costs $900m and takes 15 years. Only one in 1,000 compounds tested makes it into human trials, and only one in five of those emerges as a drug. Few industries have such a low hit rate. In-silico biology promised to improve things: in 1999, PricewaterhouseCoopers, a consultancy, estimated that it could save $200m and two to three years' development time for each drug. So how is it doing? Alas, the high hopes of a few years ago have yet to be realised. But

there are some hopeful signs that the technology might, at last, be starting to prove its worth.

The field is a crowded one. Some firms, such as Gene Network Sciences (GNS), Entelos, and Rosetta Biosoftware (owned by Merck), specialise in modelling biological systems and processes. Others, such as Spotfire, Simulations Plus, Select Biosciences and Lion Bioscience, are more focused on creating three-dimensional images from the resulting data. There is “a lot of confusion, even among scientists” about how to demarcate the field, says Cristiano Migliorini of Roche, a drug giant based in Basel, Switzerland. Drug companies have concluded that so far, no one in-silico firm has all the pieces needed in the drug-development puzzle, so they have contracts with several of them. “Because of the overpromising of genomics, there is still a lot of confusion about where each of us fits into drug development,” says Colin Hill, the boss of GNS.

In-silico biology technologies are being applied to a number of drug-development challenges. But the technology that seems most likely to improve the economics and predictability of drug development is software that simulates the workings of biological processes. There are many factors that affect health and disease, so the trick is to find out which matter most and how to influence them. “Biosimulation” can help both to identify promising targets and to determine the degree to which a drug can affect them.

In the April issue of *Drug Discovery and Development*, an industry journal, several drug companies including Roche, Pfizer, and Johnson & Johnson, offered high praise for this approach. Roche said that biosimulations had helped it to find additional uses for Pegasys, its hepatitis-C drug. Pfizer noted that America's medicines regulator, the Food and Drug Administration (FDA), had specifically mentioned that computer models “provided confirmatory evidence of efficacy” for Neurontin, a drug that treats the pain experienced after a bout of shingles.

You will be simulated

Biosimulation software is based on interconnected sets of mathematical equations, calibrated to represent particular biological and physiological behaviours, which respond realistically when their numerical parameters are adjusted to imitate a particular medical condition or the introduction of a drug. It is still not possible to give a virtual drug to a virtual patient and instantly determine whether it will work against a particular disease—but it is possible to draw some useful conclusions from biosimulation.

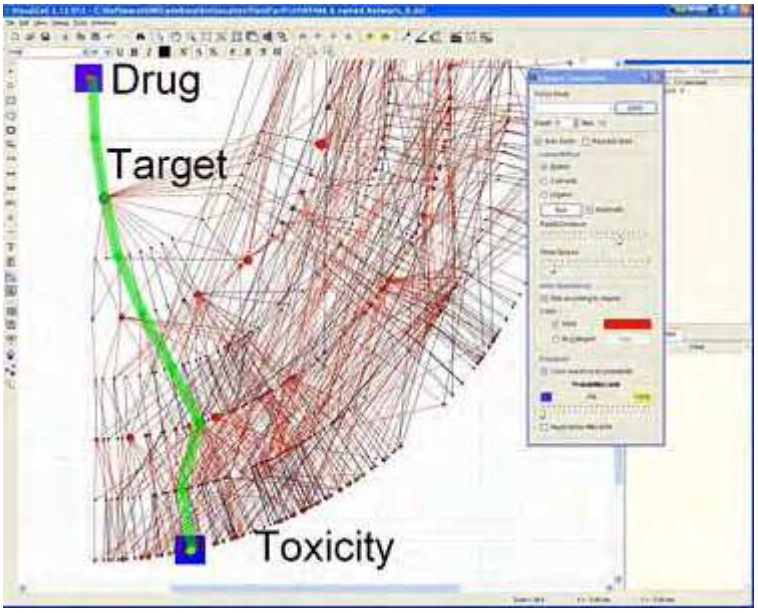
Consider a recent example from Entelos, a firm based in Foster City, California. Its technology, called the Metabolism PhysioLab, is based on a mathematical model of the human metabolism. It simulates carbohydrate, lipid and amino-acid metabolism, and models the actions of the gut, the absorption of intestinal nutrients, insulin release, and nutrient cycles in muscle, connective tissue, liver and other tissues. Entelos researchers created 125 unique virtual patients, to represent the variability seen in real-world patients, and then ran a simulation to evaluate an experimental approach to asthma treatment for Pfizer. The simulation determined that while potential drug targets were involved in more than 50 processes in the respiratory system, only three of the 26 known effects and one of the hypothesised effects had a clinically significant impact. The simulation thus determined which physiological processes and drug targets were worth concentrating on. It would have cost Pfizer several years and millions of dollars to get this answer using its standard techniques.

As well as helping in the discovery process—the search for and validation of promising drug candidates—biosimulation can also help with development, when the drug enters clinical trials. Entelos ran another simulation that helped Johnson & Johnson Pharmaceutical Research & Development (J&JPRD) determine the safety limits for a new treatment for type-2 diabetes. The original plan for the trial was to administer different doses to five groups of patients. The

biosimulation, again using a group of virtual patients, suggested that the drug would not cause an “adverse event” regardless of the dose. So Entelos recommended that the trial need only test the highest dose. This enabled J&JPRD to eliminate four-fifths of the trial, reducing the total number of recruited patients by 60% and shortening the trial's duration by 40%.

A big limitation of biosimulation, however, is that not all physiological processes are known, so not all are included in the various software models. GNS, based in Ithaca, New York, combines the bottom-up simulation of physiological processes with a top-down “inference modelling” approach based on the analysis of clinical-trial data. Using machine-learning and data-mining techniques, which sort through mountains of data looking for patterns, it is possible both to confirm known behaviours of biological systems, and to predict other, unknown behaviours. The firm's clients include Novartis, Merck and Johnson & Johnson.

Another area where computational modelling can help is in the design of clinical trials—a field in which models developed by Pharsight, of Mountain View, California, have become so useful that the FDA itself is adopting them. Pharsight's “computer-assisted trial design” system models and simulates clinical trials to determine the optimal number of patients, dose amounts, and dosing frequency, all of which have for years mostly been determined through time-consuming and costly trial and error. Pharsight has contracts with big firms including Pfizer and IBM Life Sciences.



And not a test tube in sight

Getting from here to there

While in-silico biology has come a long way over the past five years, it still has a lot to prove. “Its importance will increase over time,” says Henri Theunissen of Organon, a drug firm based in Oss, in the Netherlands. But, he says, “we're currently still in the validation phase of many of these technologies.” One problem is that the computer models are still only as good as the data on which they are based, and those data are still incomplete, or are scattered around in scientific journals. Nothing would speed the advancement of biosimulation more than data from clinical trials. Despite public pressure, drug firms and medical journals are reluctant to make such data available.

Dr Hill, the boss of GNS, says his technology delivers to the best of its ability, but needs more

information about molecular pathways and mechanisms of action. He reckons that scientists only understand about 5% of the processes involved in drug-cell interaction well enough to model them, create simulations and predict drug behaviour. “The human genome project gave us a parts list for biology, molecular biology taught us how individual parts of the cell work, but ‘known biology’ is still trailing the ‘unknown biology’,” he says.

As well as the need for more data, Dr Migliorini of Roche notes that for the field to live up to its promise, the process of drug development will also have to be overhauled. “Without a change in processes,” he says, “any large productivity gain is missed.” But, he adds, “the industry is certainly now learning how to use these tools intelligently, creating success stories that will pave the way to process changes in the future.”

Hans Winkler, senior director of functional genomics at J&JPRD in Beerse, Belgium, says that pathway analysis, better understanding of biological interactions and a greater availability of empirical data all mean that the industry can do a lot better than it could five years ago. But the in-silico biology field is, he says, still 10-20 years from reaching what those in the field say is a key validation point. “We all still have a dream to do something like a gene-expression experiment to analyse how a compound influences apoptosis,” he says. This would involve taking a measure of which genes were active in a particular form of cancer, plugging it into a simulation, and then being able to determine which pathways were active, and exactly what the impact of a particular treatment would be. “This is still not possible,” laments Dr Winkler. So although in-silico biology is starting to show promise, it still has a long way to go.

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CASE HISTORY

An unexpectedly bright idea

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From The Economist print edition

Lasers: Few innovations of the past century have changed as many aspects of everyday life as the laser. A laboratory curiosity at first, there now seems no limit to its usefulness

FOR several years after the invention of the laser, Charles Townes's colleagues teased him about its seeming irrelevance to the real world. They told him bluntly that it was “a solution looking for a problem”. But Dr Townes, who later received a Nobel prize for his work in developing the technology, has had the last laugh. Over the past four decades, he has watched the laser emerge from the obscurity of the laboratory to become a ubiquitous technology that is used in an amazing diversity of applications. Lasers can now be found in everything from DVD players to weapons systems, telephone networks to operating theatres.

Lasers pack a powerful punch, and have had a huge impact on society. Today, they guide missiles, point mining equipment in the right direction and enable astronomers to take clearer pictures of the heavens. They also perform myriad mundane tasks, such as powering office printers, removing unwanted body hair and carrying voices from one telephone to another. Lasers are synonymous with precision, from industrial cutting machinery to sights for sniper rifles. Yet the creators of the laser were not so sure what they were aiming at when they began working on the technology back in the 1950s.

The grandfather of the laser was Albert Einstein. In 1917, the great physicist postulated that atoms could be persuaded to emit tiny packets of energy, called photons, in an organised manner though a process of “stimulated emission”. But how could this be achieved in practice? The answer came in a flash of inspiration on a park bench, or a middle-of-the-night “Eureka!” moment—depending on whose story you believe.

A tale of two epiphanies

As Dr Townes tells it, he had his epiphany shortly after dawn on a spring morning in 1951, as he was sitting on a bench in Franklin Park in Washington, DC. He quickly jotted down his idea on a scrap of paper he found in his pocket. “It is perhaps a hackneyed device among dramatists to have a scientist scribble his thinking on the back of an envelope, but that is what I did,” he later wrote.

In essence, lasers work by setting up a chain reaction, in which photons of a particular wavelength prompt other atoms to emit further, identical photons. For all of this to work, a suitable material, called a “gain medium”—which can be a solid, a liquid or a gas—is required. To get the process started, the gain medium is “pumped” using a burst of light or an electrical discharge. This excites the atoms in the medium, some of which then emit photons of a specific wavelength. When a photon encounters an excited atom, it may then cause it to emit an identical photon—a process called “stimulated emission”. This causes a cascade effect, as each photon stimulates the emission of additional, identical photons. The gain medium acts, in short, as an amplifier of light: hence the name laser, an abbreviation of “light amplification by stimulated emission of radiation”.

Laser light has several unusual properties. It is monochromatic, since it is made up of identical photons of a specific wavelength, and the wavelength of light is what determines its colour. Next, laser light is coherent, which means the peaks and troughs of the light waves are aligned. The light is also emitted in a tight, concentrated beam.

Dr Townes, who was the head of the Columbia University Radiation Laboratory in New York, applied his idea to generate an invisible beam of microwave radiation, rather than visible light, using ammonia as the gain medium. His team called their device a maser, which is short for “microwave amplification by stimulated emission of radiation”. Their first maser was not capable of continuous output, but two Soviet scientists, Nikolai Basov and Aleksandr Prokhorov, came up with a solution to this problem. They subsequently shared the Nobel prize with Dr Townes in 1964.

Following the invention of the maser in 1953, the big question was whether the same technique could be applied to visible light. Dr Townes and his brother-in-law Arthur Schawlow, who worked at the legendary Bell Laboratories, laid out much of the theoretical basis for such an “optical maser” in a paper that appeared in the scientific journal *Physical Review* in 1958. In particular, they had the idea of putting mirrors at each end of the gain medium to cause photons to bounce back and forth. But by another man's account, the crucial insight that made lasers possible came in the middle of a mild November night in 1957. Gordon Gould, a doctoral student at Columbia under Dr Townes, sat up in bed when the idea hit him. He says that the flurry of inspiration lasted several days, and he filled over six pages of a notebook with the details of how the light-emitting device would function. In his notes, he was the first to refer to this device as a “laser”; Dr Townes still preferred the term “optical maser”. Dr Gould rushed off and had the pages notarised at a local sweet shop. But he did not apply for a patent: he wrongly thought he would have to build a working prototype of his design first.

Over the course of a patent war spanning the next 30 years, Dr Gould told countless courtrooms that Dr Townes had appropriated his ideas. He also argued that he had always seen the laser's potential in real-world applications—which were poorly outlined in the laser patent granted to Dr Townes and Dr Schawlow. In the 1970s and 1980s, Dr Gould won several important legal battles, and was awarded a number of patents relating to lasers. Neither Dr Townes nor Dr Gould constructed the first working laser, however. That happened in 1960, when Theodore Maiman, a physicist at the Hughes Research Laboratories in Malibu,

“It is not surprising that the pioneers of the laser could not predict what it would be used for, since its

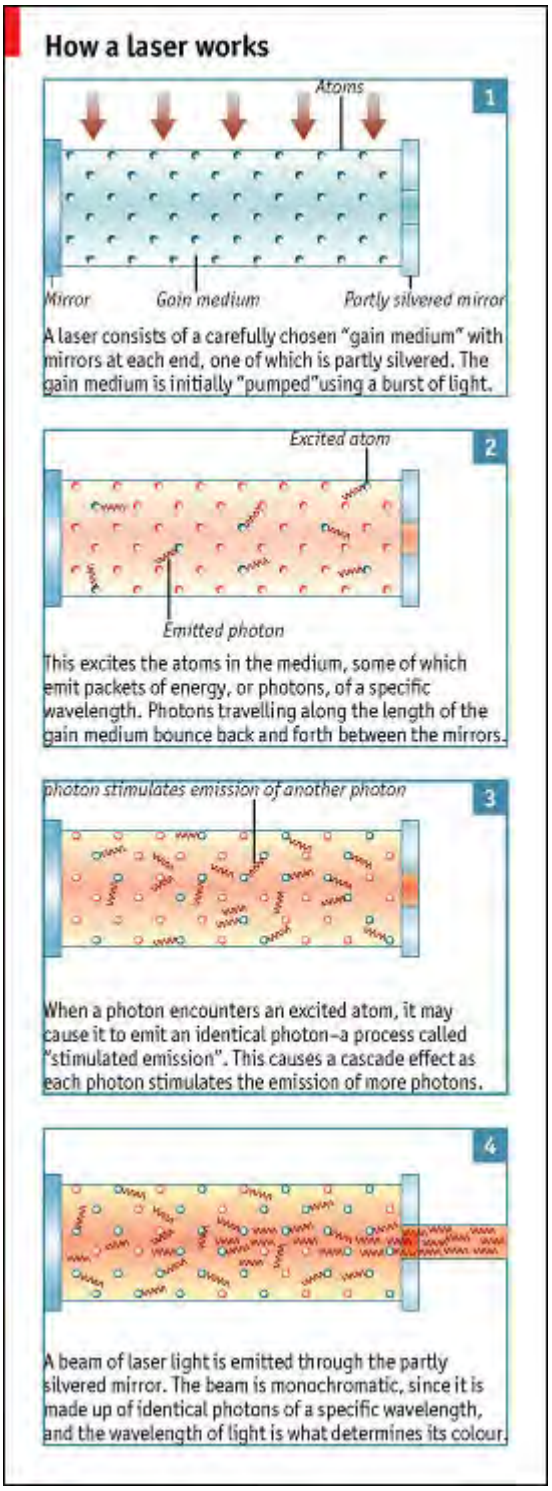
California, finally hit upon the correct configuration of mirrors, gain medium and pumping mechanism to make a working laser—beating Dr Townes's own team at Columbia, and Dr Schawlow's at Bell Labs, in the process.

applications have been so many and varied.”

Beaming with success

It is not surprising that Dr Townes and Dr Schawlow could not predict what the laser would be used for, since its applications have been so many and varied. “Asking how lasers have influenced modern life is like asking how electricity has influenced modern life,” says Lou Bloomfield, a physicist at the University of Virginia in Charlottesville. To start with, it seemed that lasers would be most useful in industry and in scientific research: the first examples had been devised for use in spectroscopy, to probe the properties of matter. But the advent of small, cheap, low-power semiconductor lasers meant they could be incorporated into mass-produced consumer products. Today, such lasers are the most numerous: they can be found at the heart of hundreds of millions of CD and DVD players, PCs and games consoles.

In an optical drive, a laser beam is focused on to the microscopic bumps and pits on the disc's surface. The bumps and pits are formed by injection-moulding the plastic disc; its surface is then covered with a very thin reflective coating, and the whole thing is encased in a transparent protective layer. As the disc spins, the laser's light is reflected off the bumps and pits, each of which reflects the light differently. These differences are detected using an optical sensor, which produces a stream of digital information corresponding to the sequence of bumps and pits.


How a laser works
Atoms
1
Mirror
Gain medium
Partly silvered mirror
A laser consists of a carefully chosen "gain medium" with mirrors at each end, one of which is partly silvered. The gain medium is initially "pumped" using a burst of light.
Excited atom
2
Emitted photon
This excites the atoms in the medium, some of which emit packets of energy, or photons, of a specific wavelength. Photons travelling along the length of the gain medium bounce back and forth between the mirrors.
photon stimulates emission of another photon
3
When a photon encounters an excited atom, it may cause it to emit an identical photon–a process called "stimulated emission". This causes a cascade effect as each photon stimulates the emission of more photons.
4
A beam of laser light is emitted through the partly silvered mirror. The beam is monochromatic, since it is made up of identical photons of a specific wavelength, and the wavelength of light is what determines its colour.

CD and DVD players work in essentially the same way, but DVDs can contain more information, since they are read using laser light of a shorter wavelength (650 nanometres, as opposed to 780 nanometres in the case of CDs). This shorter wavelength allows smaller bumps and pits to be distinguished, which means more of them, and hence more data, can fit on the disc. The next generation of optical drives will be based on blue lasers (with a wavelength of 405 nanometres), providing enough storage capacity for high-definition movies.

Compared with videocassette players, which rely on magnetic tapes and contain lots of

complicated and expensive moving parts, laser-based gadgets use cheaper off-the-shelf components, explains Paul Jackson of Forrester, a consultancy. As a result, the prices of DVD players fell far more quickly than those of VCRs. The DVD player became one of the fastest-adopted products in the history of technology: the first players appeared in 1997, but around half the households in the developed world now have one, and the cheapest models cost a mere $40.

Seeing well and looking good

As well as bringing crisper images to television screens, laser technology has also made it easier for people to see them without the help of glasses, thanks to the development of laser eye-surgery. As early as the 1960s, the possibility of using the technology in medicine had occurred to researchers such as Leon Goldman, often called the father of medical lasers. He had been asked to evaluate the safety of industrial lasers, and his investigations into the biological effects of lasers led him to consider their use in surgery.

In 1965 doctors first used an argon laser to repair a detached retina, a sight-threatening condition in which the light-sensitive layer of the inner eye becomes separated from its supportive tissue. Focusing a laser on to the retina and making tiny burns produces scar tissue that “welds” the retina back into place. To the laser's inventors, this application of the technology was a completely unexpected development. “I had never heard of a detached retina,” says Dr Townes.

More recently, an increasing number of people have put aside their glasses and contact lenses to take advantage of a speedy procedure known as “laser-assisted in situ keratomileusis”, better known as LASIK. Around 2m people in America alone will undergo the operation this year to correct near- or far-sightedness. During LASIK surgery, an instrument cuts a thin flap in the outer portion of the eye, called the cornea. This flap is then peeled back, allowing laser pulses to vaporise and remove a microscopic portion of the underlying tissue, thus reshaping the cornea. Since it is the shape of the cornea that determines how near- or far-sighted someone is, this reshaping has the effect of correcting the patient's vision and reducing the need for glasses or contact lenses.

Lasers have many other surgical uses, too. They have been adapted to zap away spider veins, warts and wrinkles. “The impact of lasers and laser-like technology in dermatology over the last 20 years has been nothing short of miraculous,” says David Goldberg, who is the director of laser research at the Mount Sinai School of Medicine in New York. A tiny beam can be used to heat up a wrinkle, for example, and collagen proteins, which have a firming effect, are then produced as part of the skin's healing mechanism. As people become older, richer and vainer across the developed world, researchers are devoting a lot of attention to improving such cosmetic procedures.

Lasers also have less frivolous medical uses, of course, not just improving people's appearances, but also saving lives. They can be used to zap tumours, remove polyps and stem bleeding. Lasers are more precise than conventional surgical instruments, doing less damage and allowing for faster healing and recovery. By directing a beam along a flexible optical fibre, they can even be used inside the body.

Laser pulses travelling along optical fibres can heal, but are better known for carrying information. In 1988 the first transatlantic fibre-optic cable went into service, and such cables have since redefined the economics of telecommunications. “If you look at a world map now, it's just a spider web of these undersea cables,” says Paul Shumate, executive director of the Laser and Electro-Optics Society at the Institute of Electrical and Electronics Engineers (IEEE). “In 1975 there wasn't a fibre in the telephone network. Now, 30 years later, there's hardly any copper except at the last connection from the curb.” Stephen Anderson, editor-in-chief of *Laser Focus World*, an industry journal, points out that people have forgotten the challenges of making transatlantic calls. As

recently as 40 years ago, such calls required a lot of organisation. “Bookings were made two days in advance, and you were lucky if you could understand one another,” he says. During the 1990s, enthusiasm for fibre networks led to an enormous overbuild, huge overcapacity, and plunging prices. The result was meltdown for the telecoms industry, but far cheaper and easier communications for its customers.

Using several lasers, each with a different wavelength or colour, it is possible to send multiple streams of data down a single optical fibre—a trick called “wavelength division multiplexing”. Improving the precision with which particular colours of laser light can be generated—in particular, through careful temperature control—therefore has the effect of increasing the capacity of a fibre. At the beginning of the 1980s, fibres carried a single stream of data at 45 megabits per second, says Dr Shumate. The capacity of each stream has since increased to 10 gigabits per second, and researchers have achieved speeds of 40 gigabits per second in laboratory conditions. Sending dozens of such streams, using many slightly different wavelengths, down a single fibre increases its capacity to several terabits (millions of megabits). Improvements in laser technology, in short, have increased the capacity of networks without the need to lay any new fibre.

New ways to use lasers continue to proliferate—and one of them might even be coming to a supermarket near you. Retailers already use laser scanners to read bar-codes. But Sherwood Technology, a firm based in Widnes, Britain, has devised a system called “DataLase” that uses lasers to write prices, dates and other information on to fruits, vegetables, pills and even confectionery. An edible, light-sensitive coating is applied to the surface and then drawn on using a low-power laser, which causes the coating to change colour. It is yet another example of the way that new uses continue to be developed for lasers, decades after their invention.

The lesson of the laser

And therein lies a lesson. The technology was originally developed for use in spectroscopy, and its myriad other uses were an unexpected bonus. “People just didn't imagine the many applications which now seem so obvious,” says Dr Townes. “But that's a characteristic of most really brand new ideas.” Dr Schawlow has even suggested that trying to anticipate the possible uses for the laser might have hindered its development. “We had no application in mind,” he said in 1981. “If we had, it might have hampered us and not worked out as well.”

Some people worry that the research climate that produced this fundamental technology—one that allowed bright minds to pursue abstract ideas—has become regrettably rare. Dr Bloomfield, who himself once worked at Bell Labs, feels that today's corporate research laboratories tend to have a shortsighted view, focusing only on the next six months. “More and more, everyone's waiting for someone else to do the pioneering work and hoping to take advantage of other people's foresight,” he says.

The laser is an object lesson in the value of blue-sky research, and a reminder that even a seemingly obscure technology can go on to have an extraordinary range of uses. So has Dr Townes ventured back to the Franklin Park bench since the morning he came up with his breakthrough idea? No, he admits, but perhaps it would lead to new insights. “I probably ought to go back,” he says.

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REPORTS

When modern art shows its age

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AFP

Art conservation: Contemporary works of art, based on modern materials and technologies, are proving hard to maintain

HOW long can a tiger shark dunked in formaldehyde last? Damien Hirst's peculiar creation is, alas, deteriorating. Since being unveiled in 1991, the liquid has become murkier and the shark skin looser. What to do? The artist has made no public pronouncements, and conservators are divided. Perhaps the shark's rotting guts should be removed. Or the formaldehyde could be strengthened. But would such measures change the meaning of the work, whatever that is? Happily for Mr Hirst, worries about the work's longevity seem tangential to its value: it was sold earlier this year for $12m.

Modern and contemporary art can be hard going for conservators. Their job is to maintain each piece in its original glory for as long as possible. But so many new materials have come into use in recent years that tried-and-trusted methods are often outdated. Painters use umpteen varieties of synthetic pigments and binders, not the straightforward oils and varnish of their forebears. Sculptors rely on much more than just marble or bronze. Digital art—from videos and slides to the internet—further complicates matters.

Worries about the durability of off-beat materials are not altogether new. As conservators are quick to point out, artists through the ages have faced such problems. Many centuries ago, oil on canvas was an experimental technology. Works that could not be saved from rot or rust are long gone: those that survive are the ones that conservators figured out how to treat. Even Leonardo da Vinci, that great innovator, lost some gambles. He daringly painted his “Last Supper” on a dry plaster wall, not the customary egg tempura on wet plaster. The wall flaked, leading to 500 years

of conservation headaches.

Still, the amount of choice today seems greater than ever. Chocolate, lard and yogurt can all show up in contemporary art, says Shelley Sturman, who is in charge of object conservation at the National Gallery of Art in Washington, DC. So too can items such as vacuum cleaners or pills; and when these show wear and tear, should the conservator run to the shops to buy new ones, or let the old ones age gracefully?

Such problems are particularly acute with latex, a type of rubber popular for its flexibility and beauty. Eva Hesse's “Rope Piece” from the late 1960s, a cascade of rope from metal hooks, can be only rarely displayed by the Whitney Museum of American Art in New York. Its latex coating has flaked and discoloured in places. Another work owned by the Whitney, Tim Hawkinson's life-size “Balloon Self-Portrait” (1993), has had to have its latex case recreated for display. Also troubled is Paul Thek's “Fishman” (1968), owned by the Hirshhorn Gallery in Washington, DC. This life-size body of a mostly latex man in a tree has grown brittle, is torn in places and has sometimes been shown outdoors, which hastened its deterioration. In all these works, conservators must decide whether the latex should be left on, or replaced or removed—thus altering the work in order to extend its life.

Another challenge is scale. Some of today's finest sculptors produce enormous works. In 2001 the National Gallery of Art unveiled a sculpture weighing nearly nine tonnes by Frank Stella, an American artist. To clean this knot of twisted steel, aluminium, fibre-glass and carbon fibre, the museum had to hire a boom lift with a 60-foot arm. Fortunately, the squirrels that had been nesting there found another home before they had to be evicted.

The good news is that many modern materials are actually more durable than historical materials. Paints are a prime example. Acrylic emulsion, a form of plastic, is the medium of choice for artists at their easels today. This and other synthetic paints came along only last century. Because they dry faster and yellow more slowly than traditional oils, they appealed as house-paints; they can also be cleaned with water. Artists adopted them too—and, says Tom Learner of the Tate museums in Britain and co-author of “The Impact of Modern Paints”, they have resisted ageing well.

Swings and roundabouts

But there are still plenty of unknowns about modern paints. For one thing, a “staggering array” of new pigments and binders has been created over the past 70 years, according to the Getty Conservation Institute in California. Variety has meant opportunity, with room for all sorts of new colours and degrees of transparency. So, for example, Morris Louis used acrylic—solution, not emulsion—for his starkly coloured vertical lines. Mark Rothko used the new paints for his powerful single-colour patches. But each of the hundreds of new pigments, in combination with binders such as nitrocellulose or acrylic, has its own chemical and physical properties. There are also additives—thickeners, defoamers, buffers, antifreeze and so forth. More complicated still, paints are not the only things on paintings these days. Alberto Burri, a 20th-century Italian painter, had a fondness for burned plastics—a “nightmare for conservators”, says Giacomo Chiari, chief scientist at the Getty.

What does the explosion of new paints mean for conservation, cleaning and display? Learning more about them, and identifying their exact compositions, is high on the agenda. Much also depends, says Mr Learner, on how each piece is displayed or stored. Synthetic paints can expand, soften or get sticky when hot; they can grow brittle when cold. At the Getty laboratories, conservators observe samples under high-intensity light and various temperature and humidity conditions.

There is also the matter of how best to clean the new paints. Dirt can accumulate surprisingly quickly—a particular problem for monochrome paintings favoured by the likes of Rothko, where any off-colour patch stands out. Experimental treatments for cleaning acrylics, using such things as lasers, enzymes and liquid carbon dioxide, are due to be tested by researchers at the Tate, who are also working with conservators at the Getty to boost their knowledge of paints.

An even trickier area is digital art, or "time-based media" in art-world lingo. Anyone with an old computer gathering dust in the attic can spot the problem: hardware goes out of date in a flash. Fixing old models is expensive at best, impossible at worst. But often the original equipment is necessary to display the work just as the artist intended.

Just imagine keeping up with the work of Nam June Paik, a prolific Korean-born video artist. One of his best-known early works, "Exposition of Music-Electronic Television" (1963), involves 12 television sets strewn around the exhibition room, some of them overturned. Another piece, "TV Buddha" (1974), involves an ancient Buddha figure gazing at a television monitor that shows his own image—an unsettling union of western and oriental themes. Such sculptures, says Glenn Phillips, a curator at the Getty's research institute, must use the monitors from the 1960s and 1970s in order to stay true to the original piece. Yet cathode-ray tubes are needed to run conventional monitors, and their availability is diminishing as flat-panel displays proliferate.

Similar worries affect works that use slides and slide projectors, which are fast going out of stock. But some artists actually like using the old stuff. Cory Arcangel, a Brooklyn-based artist known for hacking Nintendo game cartridges, hunts down old computers and video-game systems from eBay (or the occasional flea market or charity shop). He then reconfigures the systems with new music or software. One recent work, "Japanese Driving Game" (2004), Mr Arcangel took off the cars from a racing game, and plugged the game back into the Nintendo. Now it plays like an empty road that simply passes by for ever, with no cars.

Surely digital media are easier to preserve, since they can be so easily copied? Mr Paik's videotapes, for example, might be stored on a modern DVD but displayed via old-fashioned equipment. Digitising a tape can stop it from being degraded, says Mr Phillips of the Getty. But DVDs too can degrade—and information can be lost (or changed) in the compression process, thus changing the original work, says Pip Laurenson, a conservator at the Tate. Old film installations, such as those by Dan Graham, an American artist who got his start in the 1960s using closed-circuit television footage, should always be shown on film, she says.

An even newer area is web art. Artists have exploded into this medium, creating images, animation, video clips and much more online. But only the very simplest works, such as a straight animation, are likely to survive, says Amy Stone, head of the (online, of course) Museum of Web Art. The problem is that pieces are rendered by web browsers in different ways, especially if they use rapidly evolving technologies such as Flash. Each new version of a browser can change the way things look.

Creative destruction

What do artists think of these hazards? As contemporary art has expanded its range, the definition of conservation seems to be changing. Whereas the deterioration of Old Masters is seen as tragic, plenty of artists today accept that their work serves a different purpose than as a "precious collectible item", says Andras Szanto of Columbia University. Many artists do not even worry that their work may expire someday, though attitudes can change when their works start selling.

Some artists have escaped conservation problems in the only way they know how—more creativity. Conveniently, some of the trendiest installations in recent years have been self-

destructing. In “Breakdown” (2001), Michael Landy spent two memorable weeks smashing up his possessions in a London department store, as a comment on consumerism. Mr Arcangel, the pop artist keen on old machines, is bullish on his favourite medium, Nintendo. The technology “is already 25 years old—it's lasted quite a bit,” he says. Even if the hardware does eventually fail, he notes, it is always possible to resort to emulation, or software mimicry of the old machines. Evidently, conservators will require a wide range of skills in the future. As Mr Phillips of the Getty says, “Probably some of the most difficult conservation challenges are things that have not yet occurred to us.”

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REPORTS

On a roll?

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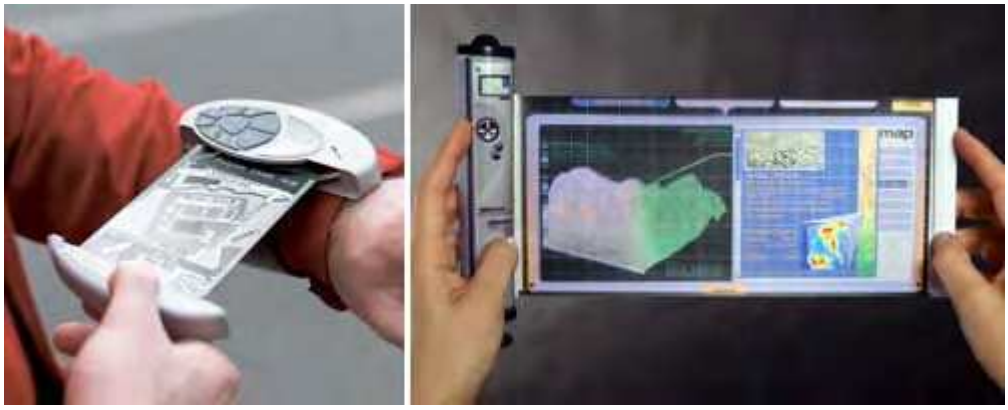

Electronics: Flexible-display technology is coming—but it still falls far short of the science-fiction ideal

FLEXIBLE video displays, like jet-packs and talking robots, are a science-fiction staple: think of the self-updating newspapers in “Minority Report”, or the video wallpaper in “Total Recall”. For years, research laboratories, big companies and start-ups have been working hard to turn the idea into reality. Flexible screens would have a number of advantages. They would be lighter and more robust than the glass-based screens currently used in laptops. And roll-up screens that could be unfurled when needed would be one way to solve the problem that while the technology to store and process information has become smaller and cheaper—as demonstrated by the vast storage capacity of an iPod, or the processing power of a portable games console—display technology has not kept pace.

Proponents of flexible displays imagine a device as thin as a piece of paper that can be stored in a folder, and then act as a video display for a mobile phone or handheld computer. Or how about a smart blueprint that can be scribbled on at a building site, with the modifications being automatically copied back to a database at head office? “There's a huge volume of information that isn't making its way to people on the move because they don't have a suitable device to display it,” says Karl McGoldrick, the boss of Philips Polymer Vision, one of several firms making flexible displays. He is focusing on the mobile-phone market to start with, because he believes that light, robust and flexible displays solve a real problem (see concept design, above left).

Yet as flexible displays inch towards the market, their initial uses are likely to be more prosaic: on shelf-edges and signs in shops, says Kimberley Allen of iSuppli, a market-research firm. “What you want in a flexible display is something that can go on a shelf-edge display or be wrapped around a post, is light and looks cool,” she says. One idea is to update labels on shelf-edges over wireless links. This would let shops update their prices more quickly and cheaply than is currently possible. They could then try out new price regimes in individual locations, or quickly re-price goods to clear them at the end of the day. There would be similar advantages for large signs, which could be quickly updated to reflect changing circumstances or to promote special offers.

“The question is how a flexible display would fit in with the current consumer market,” says Charles Spear of Intertech, another market-research firm. He thinks flexible-display firms need to focus on niche applications, where they can make a name for themselves, rather than trying to displace liquid crystal displays (LCDs), the dominant form of flat-screen technology at the moment. “If developers try to follow the substitute path then they'll end up with a near zero market in five years,” he says. “If they start in novel markets they will have a $300m to $500m market.” But while the technology has come a long way in the past few years, it still faces a number of challenges. What makes a flexible display so difficult to build?

Most displays consist of two main elements: a “backplane” that controls which dots in the display (called picture elements, or pixels) turn on and off, and a “frontplane” that either emits light, or controls the flow of light from another source. Ideally, the backplane should have a transistor under each pixel, so that the pixel can be turned on and off without affecting its neighbours. (This is what distinguishes “active matrix” LCDs from blurry “passive matrix” ones.) But transistors must be made of a material with reasonable electronic properties if they are to switch fast enough for the display to show video. The usual approach is to deposit silicon on the backplane and then etch the transistors into it in the usual way, but this can only be done if the backplane is made of glass with a very high melting point. Try this approach with a flexible plastic backplane, and it will simply melt.

How to be more flexible

One promising way around this problem, being pursued by Philips Polymer Vision, Plastic Logic and other firms, is to make the transistors themselves out of plastic—specifically, out of organic polymers. Both firms have developed organic electronic materials that are soluble and so can be deposited using screen printing and inkjet technologies. Transistors and other circuitry can then be printed on to a flexible plastic substrate.

So much for the backplane; the frontplane presents its own challenges. With a traditional LCD, the frontplane is also made of a rigid piece of glass, and the “cell gap” between it and the backplane must be precisely maintained. (Press gently on a large LCD display, and you will see why: small variations in the size of the gap cause a visible rippling effect.) Maintaining a constant cell gap is hard enough even with large, rigid displays, let alone flexible ones. But flexible LCDs are not impossible. Philips Research has devised a “self-stratifying” LCD technology, in which a blend of liquid crystal and a polymer-forming material is applied to a flexible substrate. The material is exposed to ultraviolet light through a mask patterned with the outlines of cells. Wherever the light hits the material, it hardens into a polymer, creating a grid of cells full of liquid crystal. A subsequent exposure of the whole surface closes the cells by creating a polymer cap across each one.

Another approach is to abandon LCD technology, in which the pixels act as tiny shutters for a separate light source, in favour of emissive materials, in which each pixel actually emits light. But these materials also face challenges. Organic light-emitting polymers of the type pioneered by Cambridge Display Technology (CDT) are steadily improving in efficiency and operating lifetime, and have begun to appear in mobile-phone and digital music-player displays. But these materials are vulnerable to moisture, making it critical that they are completely and permanently encapsulated. The search for materials that can both flex and provide very strong encapsulation is continuing. Accordingly, CDT is touting its materials as the basis for large area displays to challenge LCDs, rather than as flexible displays in portable devices.

So-called electrophoretic frontplane technologies are another alternative, but they have their own limitations. In electrophoretic displays, tiny white and black pigment particles are given opposite electrical charges and encapsulated in microcapsules of about the diameter of a human hair. When

an electric field is applied to a microcapsule, the pigment particles within it move, turning one side of the capsule white and the other black. The microcapsules can be suspended in a carrier medium, so that they can be screen-printed on to surfaces including glass, plastic, fabric and even paper. Sony has introduced an e-book reader that uses electrophoretic materials to provide a high-resolution, high-contrast display.

The drawbacks of electrophoretic displays are that they have slow response times, since the pigment particles take time to move, and that colour versions are still in development. But the technology is still improving, notes Mike McCreary, vice-president of research and advanced development at E Ink, a pioneer of electrophoretic displays based in Cambridge, Massachusetts. As well as being used for in-store signage, E Ink's technology powers Sony's e-book reader, and in April, Seiko, a watchmaker, unveiled a digital watch built around an E Ink display. Dr McCreary says he has monochrome displays in the laboratory that can show video at 20 frames per second, and later this year the firm plans to demonstrate a colour display for the first time.

Even so, it would seem that full colour, fully flexible displays that can switch fast enough to show video are still some way off. But the combination of organic electronic backplanes and electrophoretic frontplanes could produce truly rollable, albeit monochrome, displays in the not-too-distant future. Plastic Logic, which entered into a co-operation agreement with E Ink in December, has already produced backplanes with a resolution of 100 pixels per inch (ppi), the same as a laptop LCD. It is now installing equipment to enable it to make such backplanes at paperback (A5) size, and then plans to move on to 150ppi displays at magazine (A4) size. “There's been a lot of talk and research results over the past several years, but this year you'll see real product prototypes,” says Dr McCreary. “Then you'll see real products in volume within two years.”

Ready to roll

Mr McGoldrick says his firm is working on displays, also based on E Ink's frontplane technology, that are just 0.1mm thick and can be rolled up into a tube just 15mm across. “Sooner rather than later we'll show a working device with a rollable display to wake people up to the fact that this is a real technology, ready to be designed into applications,” he says.

Further evidence of growing interest in flexible displays came in February, when Arizona State University opened a new Flexible Display Centre. America's Army Research Laboratory is providing $43.7m of direct funding over five years, with the option of another $50m over a further five years. The centre plans to develop full-colour flexible displays that can be integrated into soldiers' clothing or folded up into their pockets. Its first prototype, a small, semi-flexible colour display, is due later this year.

“Full colour flexible displays that can show video are still some way off.”

Oddly enough, Lunar Design, an industrial-design firm based in San Francisco, came up with a very similar concept when it turned its attention to the consumer potential of flexible displays. Designers mocked up a cycle courier's jacket covered in flexible-display material. Using satellite-navigation technology, the courier's current location would be displayed on a map on the jacket's wrist. The team also proposed making jackets that could act as billboards, or could be subscribed to a designer's “pattern of the day” service.

“The next magical step is when the display leaps out of the product and becomes the wrapper, eliminating the frame,” says John Edson, the president of Lunar Design. “When I look at my phone display, it is like I am looking at the telephone number through a peephole. If you can pull that information out on to the surface it's very intuitive.”

Clearly, the science-fiction dream of the flexible display continues to captivate the imagination. But until some substantial technical challenges are overcome, you are more likely to see such displays on shelf-edges and signs than wrapped around a member of the digerati.

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Economist.com PRINT EDITION TECHNOLOGY QUARTERLY

BRAIN SCAN

How to make (almost) anything

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Neil Gershenfeld wants to build devices that do for atoms what PCs do for bits—make them cheap and easy to manipulate

A FEW weeks ago, on a crisp spring evening in Washington, DC, Neil Gershenfeld walked up to the podium before a modest crowd at the Library of Congress, adjusted his black, thick-rimmed glasses and told his audience that the world was about to shift beneath their feet. Before long, he explained, people will own inexpensive desktop machines that can print objects in three dimensions just as effortlessly as desktop computers can already print pictures and words in two dimensions. Such “personal fabricators” would, he explained, transform us into magicians, capable of conjuring up precisely what we want, when we want. We might design our own mobile phones, clothes or appliances, or we might download designs from the internet and modify them to our liking, like recipes. Either way, we wouldn't be going to a shop and picking items from shelves full of identical, mass-produced products.

Yeah, right. Yet Dr Gershenfeld is not a science-fiction writer, but an engineer, and his magical vision of the future is more than just a flight of fancy. He is at work now, making it happen. Back in 2001 he founded the Centre for Bits and Atoms at the Massachusetts Institute of Technology (MIT) in Cambridge, Massachusetts. He first began exploring ways to create working electronic gizmos from scratch with students enrolled in his popular class “How to Make (Almost) Anything”. He soon found that when he gave his students a few electrical parts, some fancy manufacturing equipment (such as laser and water-jet cutters), and several boxes of computer chips, there was no end to the fascinating, some might say bizarre, inventions they would cobble together. “I was amazed with what they came up with,” says Dr Gershenfeld, shaking his head of unruly black hair.

It was as he watched his students enthusiastically create their wild inventions that the idea of personal fabricators began to take shape. He could see, in the so-called “fab lab” he had developed for his class at MIT, glimmerings of a future where people could make whatever they wanted. Then, when asked how some of the $13.75m grant made to his centre might be directed to educational outreach, Dr Gershenfeld and his colleagues had a thought: what if machines like those used in his class were made more widely available? Perhaps a good way to reach out and educate would be to create more fab labs, and see what people in different parts of the world did with them.

The answer, it turned out, was that like MIT's students, they were outrageously creative. By 2004, fab labs were popping up around the world, from inner-city Boston to the coast of Ghana to rural India. Each was made available to local residents so that they could use the labs to work on whatever problems they felt were important. Far above the Arctic Circle in Norway, herders began developing radios to track their sheep and reindeer in the mountains. In the Boston lab, children remade scrap materials into saleable jewellery, and started making and selling antennae with

which to set up neighbourhood wireless-internet networks. A fab lab in Pabal, India, now makes a device to test the quality of milk to ensure that farmers get a fair price.

Why fab labs are fab

In each case, Dr Gershenfeld credits visionary activists and community leaders for seeing how the fab lab might best be put to use—people such as S.S. Kalbag in Pabal, Mel King in Boston and Nana Agyekum, a Ghanaian tribal chief who had, uncharacteristically, worked in the technology industry in America. They were the driving forces in the communities where the fabs took root. “It's an amazing group of people that have made all of this possible,” says Dr Gershenfeld.

He admits that his far-flung fab labs are not the advanced molecular machines he foresees proliferating in the next 20 years on a desktop near you, but just clunky precursors. Nevertheless, he says, they hint at the transformative power of giving ordinary people the ability to make whatever they want. When visiting each of the labs, he found that participants were “passionate unlike anything”, driven by the sudden power to solve problems unique to their lives. He picks up the book he has just written about his experiences, “Fab: The Coming Revolution on Your Desktop—From Personal Computers to Personal Fabrication” (Basic Books, 2005) and opens it to a picture of a seven-year-old girl beaming and holding up a string of cut metal that she created using fab-lab machines. It spells out her name. “That smile says it all,” he says, pointing at the book.

Dr Gershenfeld believes that the march he foresees towards personal fabrication will be a social revolution as much as a technological one—a democratisation of the ability to manipulate matter, just as personal computers have democratised the ability to manipulate information. Fabricators will, he says, begin migrating from factory floors into every home, just as computers evolved from room-sized mainframes to the laptops and mobile phones that billions of people now use to run their lives.

“Today's clunky machines will turn into a universal fabricator that can make almost anything.”

Dr Gershenfeld was a child who, by his own admission, operated in his own “little world”, was not much of a student, but loved to tinker. “Mostly I was better at taking things apart than I was at putting them together,” he recalls. He remembers the schools he attended in Plymouth Meeting, a community outside Philadelphia, as dismal, boring places where he seemed to get either As or Fs, depending on how passionate he was about the subject. But while life was boring in school, it was very different at home. Conversations at the dinner table were intellectual boot camps where the young boy and his two brothers discussed the cases their parents were handling in their jobs as law professors and arbitrators. Simply spouting opinions on the cases being discussed wasn't good enough: “You had to back up your thinking with solid logic,” says Dr Gershenfeld. Occasionally the family also took “sabbaticals” in other countries, including Jamaica and England, where they lived for a year.

When the time came for him to go to high school, Dr Gershenfeld had “a real knock-down, drag-out fight” with his parents. He wanted to go to the technical side of the high school where he could take “shop” and make real things. His parents wanted him to take a more academic approach. “That struck me as punitive,” he says. Making three-dimensional objects seemed much more sensible than sitting in a classroom, but in the end he did as his parents wanted and subsequently went on to Swarthmore College, not because his grades were particularly good, but because he won a swimming scholarship. He earned a degree in physics and then completed a PhD at Cornell before heading to Bell Labs in 1981. There he returned to tinkering, but he was now able to use his knowledge of physics and complex systems to put electronic devices together in interesting ways, rather than simply taking them apart.

At work in the fab lab

By the mid-1980s he had made his way to MIT's Media Lab, where he got involved in a project called Things That Think. He developed shoes, for example, that generate power for other devices as you walk. He created an all-digital cello for Yo Yo Ma, a virtuoso musician, which turned out to be devilishly difficult but was ultimately successful. Along the way, Dr Gershenfeld wrote two physics textbooks and a popular book that described his attempts to build objects with minds of their own, fittingly entitled “When Things Start to Think”. In the mid-1990s he collaborated with several colleagues to create a quantum computer using a thimble of chloroform and a nuclear magnetic resonance imaging machine. It successfully solved a simple problem in a single computational step, lending credence to the idea that quantum computers may some day be able to operate far faster than current computers. A common theme runs through all of this work: combining information and atoms, and embedding intelligence in objects.

Bits to atoms, ideas to objects

Dr Gershenfeld remains as rebellious and unconventional as he was when he was growing up, and is undaunted by those who say his ideas are novel but impractical. He is now exploring the creation of mini venture-capital funds to create more fab labs, which cost around $20,000 each. His goal is to turn the labs into self-sustaining operations that can have real local impact and generate revenue to fund more inventions. “Any of the emerging fabs are full of the little projects that could be businesses,” he says. These might not satisfy huge global markets, but they might profitably provide villages and rural areas with tailor-made products that big firms will never make because the markets are too small.

In some ways, Dr Gershenfeld's work is just an extension of his boyhood love of tinkering as a form of self-expression. Fab labs empower people by giving them the means to turn ideas into working, concrete objects. In time, he says, the separate, clunky machines of today's fabs will morph into a single, universal fabricator that can make almost anything.

Whether you believe that such a machine is just around the corner, or many decades away, its implications are truly mind-boggling. Fabricators would give people the power to make whatever comes into their heads and then share the plans over the internet—leading perhaps to a sort of Napster for real-world objects, or a new world of “open-source” manufacturing. People have asked Dr Gershenfeld if there is an opportunity in becoming the Microsoft of personal fabricators, but he says it makes no sense. After all, once you can make a machine that makes anything, who needs the company that makes the machine?

Economist.com BUSINESS

Project management

Overdue and over budget, over and over again

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Mary Evans

Companies are increasingly keen on projects. Why, when so many fail?

WHEN George Stephenson built a railway from Liverpool to Manchester in the 1820s, it cost 45% more than budget and was subject to several delays as it made its way across the treacherous Chat Moss bog. In the intervening 180 years the management of large-scale projects seems to have improved but little. At the end of May the reconstruction of Wembley Stadium, the hallowed home of English soccer, was threatened when Multiplex, the Australian developer of the site, admitted that it faced mounting losses on the £750m ($1.4 billion) project. An unanticipated rise in the cost of steel (which doubled in 2004) and the extra labour required to ensure the building is ready for next May's FA Cup Final were said to have thrown the management's calculations out of kilter.

Even projects deemed a success these days sometimes fail to meet their targets. The 1,770km (1,106 miles) oil pipeline from Azerbaijan's Caspian wells to the Turkish Mediterranean port of Ceyhan was opened with much fanfare on May 25th by the presidents of the three countries under whose soil it lies (Azerbaijan, Georgia and Turkey). But the $4 billion project, led by BP (see article), is several months overdue and 5-10% over budget. Although oil has entered the pipeline at Baku, it will be another six months before the high-grade steel pipe is full and ready to disgorge on to tankers in the Mediterranean.

Big projects today are as likely to be built on software as they are on steel. But IT projects are no better at meeting budgets and deadlines. A £6 billion project to put the medical records of 50m Britons online by the end of this year is way over budget and has already been postponed by several months. In March, the FBI finally abandoned a $170m internal IT project, two years after problems with it had first surfaced. The Standish Group, a research firm which produces an influential annual evaluation of IT projects, judged that in 2004 only 29% of such projects

“succeeded”, down from 34% in 2002. Cost over-runs averaged 56% of original budgets, and projects on average took 84% more time than originally scheduled.

It is not as if project management is a new science. It has its origins in critical paths and Gantt charts, planning tools first widely used in the early 20th century, and its own well-established international association, the Project Management Institute (PMI), based in Newtown Square, Pennsylvania. The PMI sets standards and professional exams that are taken by thousands every year. It boasts 150,000 members in 150 countries, all of them specialists in managing projects. So why do so many still go so wrong?

Projects, says the PMI, have five distinct phases: initiation; planning; execution; control; and closure. Problems arise most frequently when initiation gets separated from execution. To secure a project, bidders often make overly optimistic assumptions about costs and revenues—an example of what Max Bazerman of the Harvard Business School calls “self-serving bias”, a phenomenon he uses to explain why good accountants do bad audits. It may also explain why good project managers make bad forecasts, particularly in the public sector, where after-the-event accountability to a project's paymaster, the taxpayer, is less rigorous. This may be pronounced with prestige projects (such as Wembley Stadium) where bidders are chasing glory almost as much as commercial gain.

A study published this year in the *Journal of the American Planning Association* examined 210 big rail and road projects in 14 different countries, and found their forecasts of future passengers to be wildly optimistic: for the rail projects, they were, on average, an astounding 106% higher than eventually turned out to be the case, with one in eight out by over 400%; the road projects' miscalculations were more modest, by over 20% in more than half the cases. The article's authors, led by Bent Flyvbjerg, a professor at Denmark's Aalborg University, claim that the forecasts on such projects are no more accurate now than they were 30 years ago.

Projecting forwards

Greg Balestrero, the head of PMI, says that for years project management was largely ignored. But that is now changing. A recent PMI survey found that three out of four European companies employ project managers. When Compaq, a computer maker, was taken over by Hewlett-Packard in 2002, it had some 1,400 on its payroll.

Three years ago the board of Siemens launched a worldwide initiative to improve its project management. The German electronics group had worked out that half its turnover came from project-like work, and it calculated that if it could complete all of these projects on time and to budget, it would add €3 billion ($3.7 billion) to its bottom line over three years. A key element of the scheme was the introduction of project managers to the company's sales teams to try and temper their more extravagant promises, a move that requires a careful balance between reining them in and killing the deal.

Some companies have gone so far as to become more like project co-ordinators than producers of goods or services. The “business-as-usual” bits of their operations have been outsourced, leaving them free to design and orchestrate new ideas. Nike, for instance, does not make shoes any more; it manages footwear projects. Coca-Cola, which hands most of the bottling and marketing of its drinks to others, is little more than a collection of projects, run by people it calls “orchestrators”. Germany's BMW treats each new car “platform”, which is the basis of new vehicle ranges, as a separate project. Meanwhile Capital One, a fast-growing American financial-services group, has a special team to handle its M&A “projects”. For all these firms, project management has become an important competitive tool. Some of them call it a core competence.

Good project management can certainly make a difference. BP's fortunes were transformed when it converted its exploration division, BPX, into a portfolio of projects, each of them more or less free from head-office control—a structure which the company describes as an “asset federation”. Asset/project managers can no longer rely on head office for support. They are required to build their own self-sufficient teams.

Moreover, there are still difficult individual projects that get completed with time and money to spare. The winner of last year's PMI Project of the Year award was the Saudi-Aramco Haradh gas pipeline, whose original contracting document was lauded for the way it “defined the mix of contracts best suited to accomplish the project's objectives”. The three-year project to build a $2 billion gas terminal deep in the desert, 10km from the nearest road, was completed six months ahead of schedule and 27% under budget. Phew, what a scorcher.

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Economist.com BUSINESS

Apple and Intel

New best friends

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A pairing in the computer industry that once seemed unthinkable

Get article background

AP

Jobs embraces the dark side

BEAR hugs between arch rivals are becoming fashionable in the computer industry. Scott McNealy and Steve Ballmer, the bosses of Sun Microsystems and Microsoft, started hugging last year and now can't help themselves whenever they mount a stage together. But many in the industry found the sight of Steve Jobs, the boss of Apple Computer, embracing Paul Otellini, his counterpart at Intel, on June 6th in front of some 3,800 software developers at an Apple conference in San Francisco particularly surprising. After all, for more than two decades Apple and "Wintel", the (unholy, to Apple theocrats) alliance between Microsoft and Intel, have been a sort of Borg and McEnroe, France and England, Harvard and Yale.

That could soon be history. Mr Jobs and Mr Otellini announced that over the next two years Apple will gradually stop using microprocessors from IBM for its desktop PCs and from Freescale Semiconductor, formerly part of Motorola, for its laptops, and switch to Intel chips. This came as quite a shock to many in the cult-like audience. Here was their hero, Mr Jobs, confessing that the Macintosh OS X, Apple's operating system, has for five years been "leading a secret double life" with Intel, whom they regard as a member of "the dark side". Who else is Mr Jobs seeing on the side these days, some were wondering.

For Mr Jobs, who has been leading Apple into a remarkable resurgence, the change is a matter of unsentimental business logic. He compared Intel's "roadmap" for future chip development to IBM's, he said, and concluded that it was better suited to Apple's plans. IBM has also been lagging in such metrics as clock speed, power consumption and heat generation, and supply delays last year caused Apple some difficulties. IBM also appears to have refused to give Mr Jobs the kind of price discounts he was demanding.

Financially, this is not a big setback for IBM, which has been Apple's partner for a decade. Apple represents less than 1% of IBM's revenues. Besides, IBM has recently won contracts to supply microprocessors for all three next-generation game consoles (which might increasingly double as home media centres and computers as well)—Microsoft's Xbox 360, Sony's Playstation 3, and Nintendo's Revolution. According to Laura Conigliaro, an analyst at Goldman Sachs, these will dwarf the lost Apple business by volume.

For the same reason, the deal is not hugely important to Intel's bottom line. Intel already has about 82% of the world market for PC microprocessors. But Intel does gain kudos. Apple is consistently the most chic and innovative player in the PC industry, especially in two areas that

Intel considers strategic: mobility and the “digital home”, in which computers connect to consumer-electronics devices for new entertainment options.

For Apple the change carries risks. Important software developers such as Microsoft and Adobe have said that they will rewrite their applications to work with the new Apple-Intel architecture, but all other software developers will also have to tweak their code. Ms Conigliaro believes that this is “likely to cause some disruptions” and might scare away some prospective Apple customers for a while.

A far more strategic, but very unlikely, change would be for Apple to use the Intel alliance to reconsider its basic philosophy about combining hardware and software. Tom Berquist, an analyst at Citigroup, reckons that it could try to sell its operating system “shrink wrapped” to owners of other Intel-powered computers, thus attacking the huge installed base of machines running Microsoft's Windows. As it happens, Apple's migration to Intel chips will coincide with the launch of a new version of Windows, code-named “Longhorn”, that will force many users to upgrade anyway.

The main implication, however, is that the old certainties are gone. Just as Apple is embracing Intel and firing IBM, Microsoft has abandoned its old ally Intel in favour of IBM (for its consoles, that is). Suddenly, it seems, everybody is getting into bed with everybody. Think of consumer-electronics giants such as Sony, cable companies such as Comcast, or new internet powers such as Google or Yahoo! and one can imagine a lot more hugging to come.

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Economist.com BUSINESS

Digital music

Twist and shout

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The good and bad of internet file-sharing

EPA

First the music, then the video go online

Get article background

AS MANY governments harden their laws against online piracy and the entertainment industry sues thousands of internet users, a band of economists are preparing to bring balance to the debate over digital copyright. So much balance, indeed, that the music industry initially objected strongly to its conclusions.

On June 13th, the Organisation for Economic Co-operation and Development (OECD) will publish a report on digital music that dispels some myths about the music industry and file sharing. Importantly, it argues that the debate should go beyond just the music industry and the health of record labels, by involving far bigger industries such as telecom providers and computer companies that also contribute to national economies. The report will be used as the backbone of national laws that try to mediate the interests of the groups that depend on digital music, ranging from companies to artists and consumers.

Importantly, the OECD, an intergovernmental body comprising 30 wealthy countries, states that file sharing is not all bad. Rather, it is “a new and innovative technology” that also, regrettably, is used to make unauthorised copies of music and film. Even record labels, the OECD points out, use the networks to find new musical trends and they are also starting to harness peer-to-peer technology to allow the legitimate sharing of music.

Sacha Wunsch-Vincent, an economist who wrote the report, questions whether file sharing has been the destructive force that the music industry claims it to be. The report states that “it is very difficult to establish a basis to prove a causal relationship between the size of the drop in music sales and the rise of file sharing.” In other words, music sales may have fallen for other reasons,

such as the quality of the product, competition from other forms of entertainment and physical piracy. The OECD notes that not all markets have fallen: CD sales in Britain, for instance, grew 31% between 1998 and 2003.

As for the fast-growing market in paid-for digital downloads, the OECD is interested in how each of the various players—the incumbent record labels, artists, digital music stores or the technology firms that service the online stores—will fare. It is particularly worried about artists. They currently get about one-tenth of the price of a download, roughly the same as they earn from the sale of a CD. But they are likely to receive less revenue if consumers choose to buy tracks rather than whole albums. The OECD stops just short of stating that artists should receive a slightly bigger share of revenue online because record labels will bear less manufacturing and distribution cost.

Underlying the report is a sense of proportion. The economists do not underestimate the harms of copyright infringement; indeed, they urge the use of so-called “digital-rights management” technology to try to limit piracy. Yet the report cautions that these systems must not crush interoperability among different technologies. Moreover, the OECD worries that technologies designed to protect copyright may undermine “fair use” provisions for lawfully excerpting portions of a work.

Next, to the alarm of Hollywood, the OECD plans to tackle the video industry's digital prospects. Far more is at stake here: the value of movies and television dwarfs the recorded-music and music-publishing industry. The Motion Picture Association of America is already working on its own economic study of the harmful effects of file sharing, to be completed this autumn. For a less self-interested analysis, wait for the OECD to publish.

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Internet governance

Pornographic

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The .xxx web domain raises questions about internet rules

IT IS the fantasy of every purveyor of porn—and every censor of cyberspace: a way to tag web content to find it easily, or just as easily to block it. On June 1st, the Internet Corporation for Assigned Names and Numbers (ICANN), the private-sector group that manages the domain-name system, approved .xxx as a web suffix. After ICANN agrees on contract terms with ICM Registry, an American company that will handle the back-end registrations, .xxx sites will sprout on the global internet.

The idea is controversial. It was made with little public discussion, leaving some to wonder about the way ICANN doles out names. Though the domain is voluntary, there will be a temptation for governments to make it mandatory. It creates a virtual red-light district, and is another step towards zoning of the web. But what constitutes adult material in Saudi Arabia differs from that in Sweden. Some countries may object to it as an example of libertine western values imposed on the global web, justifying their complaints that they lack influence over how internet policies develop—at a time when they are using a United Nations initiative to gain more say.

ICANN argues it is only a technical body, and must set aside value judgments. ICM believes it is a way for the online porn industry, worth some $5 billion annually, to identify their content to help users to find or block it. The firm expects to register 100,000 domains in its first year. Yet .xxx may not be as useful as its backers hope. Lots of porn merchants are likely to stick with their existing domain names, even if they buy .xxx in addition, to avoid blocking by some nations and most schools, libraries and offices. Meanwhile, the move has already inflamed the passions of many social conservatives.

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General Motors

The lost years

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The biggest problem is selling more cars

AP

At least GM workers buy GM cars

Get article background

RICK WAGONER has lots on his wish list: lower health-care costs, union concessions, a stronger yen. Yet what the boss of General Motors (GM) admits he could use most of right now is time. “If we had a chance to rerun the last five years,” he conceded following GM's annual meeting on June 7th, “we probably would have done a little more thinking about making sure that each product was distinctive and had a chance to be successful.”

GM has had very few hits over those five years—an era in which its American market share declined from 28% to barely 25%. GM lost nearly two of those percentage points since just the beginning of 2005, despite using some of the largest discounts in auto history to lure buyers. And with no time machine in sight, and little chance that existing models will turn things around soon, GM is slowly coming to recognise it must match capacity to its now diminished demand.

The annual meeting threatened to be an odious affair, with angry shareholders lining up at the microphones, even before the boss's opening comments. But Mr Wagoner outflanked his growing band of critics with some harsh, yet hoped-for news: GM, he proclaimed, will cut about 25,000 American blue-collar jobs over the next three and a half years. Although he offered few details, insiders expect the closure of at least four American assembly plants, and some component-making facilities. All told, when the cutbacks are completed sometime in late 2008, Mr Wagoner expects to shave about $2.5 billion off annual operating costs.

The news was greeted warmly by attending shareholders, particularly since the job losses will not be accompanied by even token cuts in the company's ample dividend. The following day, GM

shares ended up by more than 4%. But not everyone was impressed. One veteran industry analyst, Maryann Keller, calculates that what Mr Wagoner outlined was little more than the workforce reductions GM already expected through normal attrition. “They're only playing catch-up,” Ms Keller says. “There is nothing pro-active here. It does not bring their costs down to the point they'll match the competition.”

That was hammered home in the latest release of the Harbour Report on the industry's productivity. It found that Toyota cut by 5.5% the number of hours needed to build a vehicle at its North American plants last year. There was some good news for GM: it showed the biggest efficiency gains of any of the three Detroit manufacturers over the past five years. But it still took GM 34 hours to build a vehicle last year, compared with 28 for Toyota. And those hours add up. Its America workers earn around $50 an hour in pay and benefits. The report also showed that, while the busiest of GM's plants ran at 139% of capacity with extra shifts last year, others operated at just 8%, because the union would not allow them to be closed. Toyota's North American utilisation rate ran between 96% and 126%.

More flexible union work rules would help, according to Ron Harbour, the report's author. But this is not just a union problem. It requires more flexible plant design and better, more flexible products: the sort of cars, light trucks and cross-over vehicles that Mr Wagoner now says he wishes he had. Following the company's 1992 near-meltdown, management put the emphasis on fixing corporate bureaucracy, increasing productivity and reducing quality problems. All have yielded measurable results, but Mr Wagoner and his predecessor, John Smith, put product development in the slow lane, only recently ramping up their efforts.

Now it may be too little, too late. The carmaker lost $1.1 billion during the first quarter and will not even make a forecast for the rest of the year. The reason for the collapse into loss was a slump in revenues caused by weak products. Though GM has a cash reserve of around $20 billion, it is spending that at a rate of more than $1 billion a month. To save money it recently abandoned work on the new Zeta platform, which was to serve as the basis for a range of much-needed vehicles. GM is consolidating three weak divisions, Pontiac, Buick and GMC, into one marketing channel. And it is pressing the United Auto Workers union for concessions. But getting customers to buy its cars is its biggest problem—and the one that Mr Wagoner does not yet know how to solve.

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EADS

Who's in charge?

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The boardroom battle at Europe's aerospace giant continues

WHAT on Earth is going on at EADS, Europe's leading aerospace group and parent of Airbus? Two board meetings in as many weeks have failed to resolve a conflict over the top management. The Paris Air Show, which opens on June 13th, will be a wonderful opportunity for EADS to show off its wares on its home turf. The new Airbus superjumbo, the A380, will make its public debut with at least one important new customer lined up; Airbus will also announce 100 orders (from Emirates and Qatar Airlines) for its new A350 long-haul medium-sized widebody, even ahead of its official launch in September.

But these positive developments cannot disguise the Franco-German power struggle at the top. Insiders say the dispute is beginning to hurt the company in the market. It is about to make important moves, such as choosing a manufacturing site in America for its proposed joint venture with Northrop Grumman to build refuelling tankers for the US Air Force—a Boeing monopoly which it hopes to break.

EADS is 30.2% owned by Daimler-Chrysler, 30.2% by the French government and the Lagardère group (about 15% each), and 5.6% by a Spanish state holding company, with the remaining 34% floated. Because of its binational structure, it has always had French and German co-chairmen and co-chief executives. The CEOs are supposed to be Noël Forgeard (hitherto boss of Airbus) and Tom Enders (hitherto in charge of the defence end of EADS). But their official appointments and the confirmation of another German, Gustav Humbert, as successor to Mr Forgeard as chief executive of Airbus, is being held up by a spat that has been rumbling on since last December. It was supposed to have been settled on June 7th at a board meeting, which was also supposed to sign off on the commercial launch of the A350.

Mr Forgeard, having failed to become sole chief executive, is trying to re-assign roles so that the exciting and profitable bits of the company—Airbus and Eurocopter—report to him, while Mr Enders (a tough ex-paratrooper) has only the weaker defence business. Arnaud Lagardère, who represents both French shareholders, has put this to the rest of the board as a non-negotiable demand. The Germans were at one point so unhappy with this that Jürgen Schrempp, chief executive of DaimlerChrysler, wanted Mr Forgeard removed entirely to be replaced by Louis Gallois, a non-executive director who used to run Aérospatiale, the French company that was folded into EADS when it was created six years ago. Mr Gallois, whose day job is running French railways, has downplayed the suggestion. This complicated, ugly quarrel makes the gap at Boeing, without a CEO since the last one quit amid a sex scandal, seem like an old-fashioned French farce.

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Economist.com BUSINESS

Shareholder activism

Tough at the top

Jun 9th 2005 | FRANKFURT
From The Economist print edition

Another German boss is scalped by a foreign investor

GUY WYSER-PRATTE, a larger-than-life American arbitrageur, is more pleased with himself than ever after ousting Hans Fahr, chief executive of IWKA, a German engineering and automotive supplier. Mr Fahr failed to show up on June 3rd at the company's annual general meeting, during which two members of the supervisory board were also threatened with dismissal. In a vote thought to be unprecedented for a going concern in Germany, shareholders refused to give either the executive or the supervisory board their usually routine approval for the year 2004.

Mr Wyser-Pratte holds a 6.5% shareholding in IWKA, and along with other investors with similar stakes he wanted Mr Fahr replaced after a year in which the boss had done little to restructure the sprawling conglomerate. The supervisory board had also been working towards replacing Mr Fahr, but not fast enough for Mr Wyser-Pratte and his ilk.

This is the latest in a string of cases in which foreign shareholders have shaken up the management of German companies, helping to dismantle the comfortable “old boy” network known as Deutschland AG. Last month foreign investors forced the resignation of Werner Seifert as chief executive of Deutsche Börse, and engineered a reshuffle of the exchange group's supervisory board.

However, Deutschland AG is fighting back, using a rather blunt weapon known as paragraph 30 clause 2 of the German takeover law. This requires that, if shareholders accounting for more than 30% of the voting rights are found to have been “acting in concert” to precipitate an event, such as the removal of board members, then they must make a full bid for the firm, or face a fine. BaFin, Germany's financial watchdog, is investigating whether some of Deutsche Börse's shareholders acted in concert to remove Mr Seifert.

That case, BaFin believes, has enough meat in it for an investigation, whereas the IWKA case so far does not. It is difficult to prove a concert action. A case brought by BaFin against shareholders in Pixelpark, an information-technology company, was thrown out last year by a Frankfurt court, for lack of evidence. But in another civil case that was not brought by BaFin, a Munich court ruled in April that two shareholders in a metalware company had acted in concert to remove board members. They are appealing against damages set at €200,000 ($245,000).

Such actions are not likely to scare off determined investors who want to shake up German companies and think they can do so by aligning themselves with others without necessarily having a joint strategy. Chris Hohn, who runs the Children's Investment Fund which unseated Mr Seifert, has referred to a “corporate-governance discount” affecting the share price of many firms. Now Mr Wyser-Pratte has started a fund aimed at finding such discounted shares and using activism to raise the price. Originally dubbed Global Governance Partners it has been renamed the Wyser-Pratte Euro Value Fund. “It's in the formation stage,” says the intrepid investor, “but it will become the main vehicle for bringing out corporate value.”

Mr Wyser-Pratte cites the example of Rheinmetall, a defence and automotive conglomerate, in which he invested in 2000 at €8 a share. He sold out a year later at €23 after forcing out top managers. One of them, he says, later pointed him in the direction of IWKA, saying “I worked at the company for 14 years and it's a mess”—evidence that at least one “old boy” agrees Germany's network needs sorting out.

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Shareholders in Japan

Pick your poison

Jun 9th 2005 | TOKYO
From The Economist print edition

Japanese managers have grown more scared of investors

IN JAPAN, it used to be only foreign businessmen who complained about vague rules and ambiguity. Now the tables seem to be turning. In the run-up to annual shareholders' meetings later this month, Japan's business leaders are pressing for more clarity about the rules of corporate control and the limits of shareholders' rights. Their motives have not changed: they still want to remain unaccountable to investors and preserve their flexibility. But it suggests that the playing field between Japanese company bosses and their shareholders is becoming a little more level.

Japanese firms have been peppering lawyers, advisers and bureaucrats with questions in the wake of this year's high-profile takeover battle between Livedoor and the Fujisankei media group. Livedoor, an internet firm with a 32-year-old boss, was able quickly to gain control of a Fujisankei affiliate, Nippon Broadcasting System (NBS). This sent a shiver up the spines of entrenched managers across the country. What it will do for Japanese capitalism depends on how the backlash now underway by Japan's old guard plays out. Some of the early signs are encouraging.

The Tokyo district court has made some helpful decisions. In April, it struck down NBS's effort to issue warrants that would have diluted Livedoor's stake and thwarted its takeover attempt. The court reckoned that this was a blatant effort to treat Livedoor differently from other investors. Following the Livedoor battle, several other Japanese firms have tried to protect themselves by adopting similar poison pills. But in doing so, some have seen their share prices drop. Now bosses at other Japanese firms have started to think it could be a self-defeating idea. The court also struck down a poison pill adopted by Nireco, an electrical machinery maker. Tougher battles may lie ahead as Japanese firms now look for new ways to satisfy the courts without dropping their defences.

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Economist.com BUSINESS

Face value

The oil satrap

Jun 9th 2005
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David Woodward and being a giant in a small country

FOR much of the 18th century the managers of the mighty East India Company were also said to be the de facto rulers of chunks of the Indian subcontinent. These days, perhaps the only foreign organisation with so big a say in the affairs of the countries that host it is the American armed forces. But according to some observers in Baku, British Petroleum (BP) has almost the same status in Azerbaijan, a Caucasian petro-state on the western shore of the Caspian Sea.

There are few countries in the world more dependent on one industry than Azerbaijan is on energy. Oil products account for more than 80% of exports. BP is the biggest player in Baku, the capital. It has the largest stake (34%) in the “Azeri, Chirag and Deepwater Gunashli” (ACG) oil project, a deal known as “the contract of the century” when it was done in 1994, relaunching Baku as a major oil town after it declined as the Soviet authorities concentrated on Siberian energy. BP, whose turnover last year was over 30 times the size of Azerbaijan's GDP, is also the biggest shareholder in a new pipeline, officially inaugurated last month, which will deliver Caspian oil from Baku to the Mediterranean port of Ceyhan in Turkey, via Tbilisi in Georgia. Named after those towns, the BTC pipeline and the oil wells are seen by some as making David Woodward, BP's local boss, the country's second most powerful man, after Ilham Aliev, who inherited the presidency from his father after a disputed election in 2003. Others rank Mr Woodward third, behind the American ambassador.

The oil off the coast of Azerbaijan, says Mr Woodward—or “VoodVard” as he is known in Baku—is “an oil-man's dream.” The water is relatively shallow, and the drilling conditions good. The trouble has been finding a way to get it to market. America lobbied hard for the BTC; the route avoids both Iran and Russia and it will help to reduce global dependence on Middle Eastern supplies. The fillip it brings to Azerbaijan, and to a lesser extent to Georgia, will help to shore up the shaky

finances of two ex-Soviet countries. Turkey, the other beneficiary, wants no additional tankers to use the already-choked Bosphorus, a conduit for oil from an existing pipeline from Baku.

In the unstable Caucasus, the BTC's completion, albeit after a decade of wrangling, is a triumph. Each time the government of one of the participating countries has changed, says Mr Woodward, the new one had to be re-educated. The route itself is a metaphor for the region's volatile politics: along its 1,770km (1,010 mile) length, it bends northwards through Georgia to cut out Armenia, with which Azerbaijan fought a war in the 1990s.

The hope is that, as the oil travels south-west, stability will flow the other way along with the revenues. But there are big risks. Armenia still occupies part of Azerbaijan, and there are separatist enclaves in Georgia and restless Kurds in Turkey. Mr Woodward says that other targets will be easier for terrorists to strike, and more difficult to rebuild, than the pipeline, which is buried at least one metre under ground and will be guarded by horseback patrols. Earthquake risk has been mitigated, says Mr Woodward, by laying the pipe obliquely across the fault zone.

The BTC will take up to six months to fill: the first shipments will not leave Ceyhan until the last quarter of this year. By 2008, it will carry 1m barrels of oil per day, or about 1.3% of global supply. But it may not deliver quite so much as BP first hoped. Mr Woodward insists that “the contract of the century” remains a good deal, and that, with the ACG's 5.4 billion barrels of recoverable reserves, the pipeline will more than cover its $4 billion total cost. (Starting next year, gas produced by another BP-led consortium will flow through a parallel line.) And yet the other giant oil finds once expected in the Azerbaijani section of the Caspian have so far failed to materialise. Talk about Azerbaijan being the new Kuwait has faded. The BTC consortium now hopes that some of the oil in the Kazakh fields across the sea will pass through the new pipeline, or perhaps oil from Russia, despite the Kremlin's distaste for the project.

When the oil runs out

A good deal for BP, and a useful if marginal contribution to global oil flow; but a good deal for Azerbaijan? Sceptics of big oil's motives might expect BP's only political goal in Azerbaijan to be stability, even if, under President Aliev, that sometimes involves the sort of nastiness evident when a demonstration was violently dispersed just before the pipeline ceremony. Some in Baku who expected BP to import democracy along with its drilling kit are already disenchanted. But Mr Woodward says that, for BP's involvement to be sustainable, the population needs to share in the benefits of the country's oil windfall, and quickly. In Azerbaijan, says Mr Woodward, who has worked previously in Norway and Alaska, BP has entered “unknown territory,” exploring the limits of enlightened self-interest.

The big challenge, in a country that ranks among the world's most corrupt, is to ensure that Azerbaijan's share of the oil revenue is used to transform its economy (rather than, for instance, to pay for another war with Armenia). Unemployment is high; outside the oil sector, even many who have jobs live in poverty. “Dutch disease”—whereby the exchange-rate impact of the oil revenues damages other exports—has already struck. There are, as Mr Woodward says, some encouraging signs. Diplomats in Baku say that the state oil fund, the receptacle for the windfall cash, is the country's most transparent institution. Mr Aliev's government has signed up to the Extractive Industries Transparency Initiative, a British-backed scheme designed to help resource-rich countries avoid corruption. BP and international financial institutions are helping too. But one day, of course, when the oil and the gas run out, BP and its partners will pack up. Will they leave behind a prosperous country, or a mess? Perhaps only President Aliev can decide that.

Economist.com BUSINESS

eBay

Meg and the power of many

Jun 9th 2005 | SAN JOSÉ, CALIFORNIA
From The Economist print edition

Eyevine

The world's biggest online auctioneer is trading on a new sort of future

Get article background

MORE than 10,000 people from all over the world will gather in San José on June 23rd to praise, criticise and learn more about a remarkable business that has turned into a cultural phenomenon. Some will be collectors, others aspiring entrepreneurs and quite a few will have become millionaires. For many, the highlight of three days of networking and seminars will be a tour of the headquarters of the company that has made their own businesses possible: eBay. The online-auction firm's annual users' conference is being held in its home town this year to celebrate its tenth anniversary. In that supercharged decade eBay has gone from being a curious child of the internet to one of the fastest-growing companies ever. But adolescent problems are looming.

To remain one of the stars of the ever-evolving web, eBay has to change with it. The company has already achieved one extraordinary transformation: from being a website begun as a hobby and often used to trade collectables such as Beanie Babies, it has become an economy in its own right. It now has around 150m registered users worldwide—not far short of the combined populations of France, Spain and Britain—buying and selling goods expected to be worth well over $40 billion this year. Some 60m of eBay's users are “active”, having bid for or listed items within the past year.

In America, eBay's most established market, its rate of growth is slowing. Nevertheless, the company accounts for about one-quarter of all e-commerce sales, excluding groceries and travel. Some 500,000 Americans, eBay estimates, now make all or part of their living from trading on its site. eBay is also growing in popularity abroad. Around 12% of the time Germans spend online is browsing eBay's site there. Britons are not far behind in their use of eBay.co.uk. And new markets

are opening in Asia. Against fierce local competition, eBay is pushing hard into China, which some expect will become the company's biggest market in five to ten years. Meg Whitman, eBay's chief executive, believes there is everything to play for: “I think we are still at the beginning of what eBay can actually become,” she says.

Others also spy the opportunities, not only of international expansion, but also in providing new services that bring buyers and sellers together. This is why the other three online giants, Google, Yahoo! and Amazon, are offering more buying and selling services. Yahoo! and Amazon also host auctions and Google's search facilities—including its comparison-shopping service, Froogle—allow consumers to search for links to whatever they are interested in buying. eBay's $620m purchase on June 1st of Shopping.com adds a shopping-comparison service to its offering.

As the entire internet becomes one huge marketplace with many ways to buy and sell, the challenge for eBay is to corral as much of that trade as possible. Its chief advantage has been the power of many. eBay delivers the efficiency of a global market to buyers and sellers, no matter how small they might be, in a neatly packaged way. As more buyers flock to its website, the more attractive it becomes to sellers, and so the bazaar grows. On top of this, eBay's reputation-management system and other features (see article), establishes a level of order and trust.

Thousands of different categories of items are now traded on eBay. Some of these things even eBay never expected to see. Used cars, for instance, surprised everyone, but are now its most valuable category (likely to be worth some $13 billion this year). Goods sold at fixed prices have come to account for 30% of the value of all goods sold. This, in turn, makes eBay more like an online retailer—but one that carries no stock. The wares of more than 260,000 virtual “stores” are also listed. Fixed prices have helped some categories, such as clothing and accessories, to grow rapidly—these are mostly sold as new items. This alone could be worth $3 billion this year. And new categories continue to appear all the time. One of the latest is for capital goods, ranging from used catering equipment to $100,000 MRI scanners.

The network effect of eBay might seem like a natural monopoly in the making. Indeed, many users howled in protest when in January eBay sharply increased some of its fees. But where else could they go? Ms Whitman scowls: the notion that users have no alternatives is, she says, “awfully arrogant”. There are other online auction sites, but they are much smaller. eBay's real competition, however, is increasingly coming from all over the internet, not least from people selling directly off their own websites and using online marketing methods, such as purchasing search terms on competing sites such as Google, to promote themselves. “Buyers today have many more options than they have ever had in the history of shopping,” adds Ms Whitman. To fulfil its ambition of becoming the world's trading platform of choice, the most important thing the company has to do is keep the vast army of eBayers happy.

Community relations

The eBay “community”, as it is called, can be a vociferous one—especially when it grumbles. “This was a noisy one,” says Bill Cobb about the protest over fee increases. As president of North America, he was charged with responding. The price changes were designed to balance the market, for instance to produce more differentiation between standard listings and optional features which sellers can pay extra for. But the reasons were not well explained, says Mr Cobb. There were other complaints too, so Mr Cobb did the rounds; attending what eBay calls “town hall” meetings with users and participating in debates on its message boards. Some eBay user groups are now plugged directly into eBay's corporate e-mail to alert category managers if things go awry. Executives know they will be buttonholed in San José, but expect it because they are dealing with issues at the centre of many of their users' lives. As Mr Cobb puts it, at eBay “the passion meter runs high.”

That seems to have been true ever since eBay (originally called Auction Web) was founded in 1995 by its chairman Pierre Omidyar, a software engineer. His aim was to create a simple online system in which a group of people could trade goods. As trading began to take off, professional management was brought in. Ms Whitman joined as CEO in 1998 from Hasbro, an American toy company, and later that year eBay became a public company.

eBay is on course to make an annual profit of around $1 billion this year. But any firm that has grown at such a frantic pace, consistently exceeding stockmarket expectations, is bound to take something of a pasting when its momentum slows. That happened when eBay's fourth-quarter results came in a fraction short of what Wall Street expected. Its share price fell sharply but has since partly recovered (see chart). Although results in the three months to March 31st saw eBay's quarterly revenues break through the $1-billion barrier for the first time, Google now rivals it in terms of market capitalisation.

Yet dealing with Wall Street pales in comparison with managing the company to the satisfaction of the eBay community. “Managing is the wrong word,” says Mr Cobb. “We enable, we listen, we respond.” The process is a world away from management at his previous employer, PepsiCo. “Generally in a company the employees know the most about the business. In eBay, our community knows more than we do,” he adds. Ms Whitman concurs: “We make a small number of rules and get the heck out of the way, because the entrepreneurial talents of our users will solve a lot of the problems.”

Such is the inherent beauty of the eBay business model. The users do most of the work: photographing their goods, writing their listings, communicating with their buyers, packing and then dispatching their sales. eBay earns a fee per transaction, enjoying an overall operating margin of 35%.

To keep the sellers and buyers coming back, eBay has to innovate with new features. The latest is a new format called “Want It Now”. This works in a similar way to a wanted ad. Another new service is “Best Offer”, which eBay describes as the addition of the “haggling” factor. It allows a seller asking a fixed price to entertain a best offer. Haggling is, as Mr Cobb says, “a time-honoured tradition of trading.”

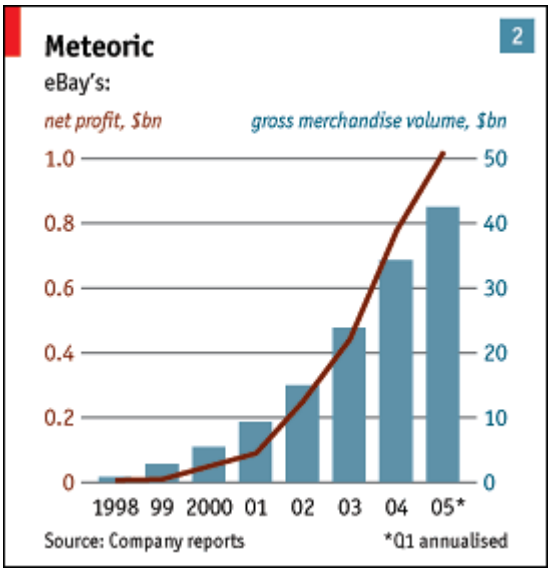
Paying up

One of the most powerful services added by eBay was its $1.5-billion acquisition in 2002 of PayPal, an online-payments company. By the first quarter of 2005, PayPal's worldwide number of account holders was up 57% on the same period a year ago to 72m. This gives PayPal more account holders than American Express—and with hardly any marketing. In America, about three-quarters of the value of all the goods traded on eBay are now settled by PayPal.

The payments system was built on top of the financial markets, says Jeff Jordan, PayPal's president. Not only does it greatly speed up payments (they are confirmed instantly by e-mail), but it also addresses one of the main concerns of buying and selling online: fraud. To hold an account, PayPal validates the identity of its users through established bank accounts or credit cards. It then employs a number of powerful anti-fraud measures, the chief one being the simplest: no credit-card or banking details are revealed to either party. Fraud in the PayPal system is said to be about one-third less than that typically associated with most credit-card purchases.

PayPal is now following eBay overseas. As it has in Britain, the arrival of a localised PayPal service typically accelerates the use of the local eBay site. One of the reasons for this is that sellers can also accept credit-card payments through a PayPal account. The online-payments system is free to buyers, with sellers paying a fee. Qualifying sellers (those with good reputations) can even offer through PayPal a buyer-protection service worth up to $1,000. Last year PayPal also announced a tie-up with GE Consumer Finance to allow sellers to offer their customers credit as well.

Apart from its international expansion—which also makes cross-border purchases easier—a big push is being made to have PayPal adopted by other e-commerce sites. Some, especially individual proprietors, already use it. For bigger firms, PayPal is a payment option along with the usual credit and debit cards. The potential to capture an even bigger share of online commerce is, says Mr Jordan, enormous.



One of the great attractions of eBay is its entertainment value; like any great flea market you never know what you will find. As with other websites, eBay can trace where people go and what they click on—not that it always makes much sense. Someone may arrive at eBay following a link from an internet search for a Harry Potter novelty, but leave having bought an Apple computer. Serendipity is a powerful force that eBay is keen to play on, so that almost anything (provided it is not illegal or offensive in its various markets) can be found either by chance or design.

Along with other e-commerce firms, eBay is also interested in local shopping services. Last year it

acquired a minority stake in craigslist, a San Francisco-based website operator and one of the pioneers of (mostly free) online local listings. In March, eBay launched *Kijiji*, which is Swahili for "village". This is being used as an umbrella brand to offer classifieds in almost 100 cities outside America. In May, *Kijiji* bought London-based Gumtree.com and Spain's LoQUo.com, both of which also offer city-based classifieds.

Kijiji gives eBay more scope to carry things that do not naturally fit into its existing auction categories, like services, home rentals, personals and jobs, says Ms Whitman. But the project is, she cautions, at its earliest stages of development. So far, for example, there are no plans to export eBay's reputation-management system. But if eBay ever did, agrees Ms Whitman, it might one day be possible to find a plumber in London—and check the comments left on his level of service.

What will the next ten years bring? It seems likely that eBay will continue to become more like a giant portal for many more things—and that Yahoo!, Google and Amazon will evolve along similar lines. eBay executives agree that it is unrealistic to expect traders, however big or small, to use eBay exclusively, although some may. It will be up to eBay to win as much e-commerce as it can by its quality of service.

It will be a tough fight. eBay is not invincible. The company was trounced in Japan by Yahoo! and withdrew from that market in 2002. eBay blames much of its Japanese troubles on being late to enter the country. Building scale fast is a critical factor, says Mark Zaleski. He is chief executive of QXL, a London-based online auction site once seen as a rival to eBay, but now confined to market leadership in just Switzerland, Denmark and Norway. Even in markets where eBay is strong, says Mr Zaleski, it is still possible to compete through specialist auctions. But don't expect huge defections. "It's a bit like a club," says Mr Zaleski. Some members may grumble and stomp off to a rival, but if most of the action remains at the place they have left, they will eventually wander back.

Networking in China

The battle to scale up quickly is now underway in China, where eBay is spending $100m to promote itself. If eBay is successful there, cross-border trading, which currently runs at about 15% of turnover, should grow. Ms Whitman expects such trade will be much bigger in years to come, as more and more connections are made.

But will she still be running eBay? When Ms Whitman, who is seen as the most powerful woman in corporate America, agreed to be shortlisted earlier this year for the top job at Walt Disney, some analysts thought she might be preparing to bail out of eBay. In the event, she withdrew and Bob Iger, already at Disney, was appointed its boss. Ms Whitman, who once worked for Disney, says she was flattered by the approach but "decided eBay was the best place for me." She says she will remain at the helm for the next three years—to her tenth anniversary with the firm—and then decide if she is still the right person to run the company. But "where else do you go after eBay?" she asks. Ms Whitman describes her company as "still the best place in the world to start a new business." Perhaps that is her answer.

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How eBay works

How to obey on eBay

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From The Economist print edition

Bringing the world to a computer screen

Get article background

WITH millions of items for sale worldwide, grouped into more than 40,000 main and sub-categories, almost anything can be found on eBay. This week there was, for instance, a finger painting in real chocolate pudding by two-year-old Corbin, who is hoping to raise enough pocket money to visit Disney's Magic Kingdom; an intriguing “I Love Wal-Mart” waistcoat; and a nifty black Ferrari 360 (starting at $150,000). Never before has there been a market with such abundant dimensions.

Both buyers and sellers have to be registered to trade, but anyone can look. Buyers can put in the most they are prepared to pay for an item, and then eBay automatically bids on their behalf according to pre-determined increments. Or the shopper can buy instantly if sellers offer that option. Buyers pay no fees, but sellers pay an insertion fee (ranging upwards from 25 cents an item in America) and then a final-value fee on goods that are sold, which is also worked out according to a sliding scale and the type of item being traded. It is then up to the buyer and seller to contact each other to arrange payment and delivery.

eBay's simple online system relies to an extent on the fact that most people are basically honest. But as the market grows in value, it inevitably attracts more rogues. Category managers and eBay's security experts police the listings and provide advice to avoid scams and phoney items. Buyers and sellers who break the rules can be expelled.

The first line of defence in online trading is eBay's feedback profile, which is in effect the online reputation of both buyers and sellers. When any transaction is completed, both buyers and sellers are invited to rate how successful it has been, and leave a review. These reviews can be read by all users. eBay's online-payments system, PayPal, is offered as a secure service which instantly transfers payments from one member's account to another without having to reveal any banking or credit-card details.

Many of the traders on eBay have come to value their reputations greatly, and those with enough positive-feedback scores are allowed to participate in buyer-protection schemes, which offer refunds. When disputes do arise, eBay offers a service to resolve them. But as in any market, the rule is always *caveat emptor*: let the buyer beware.

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Economist.com FINANCE & ECONOMICS

Europe's monetary union

The euro and its troubles

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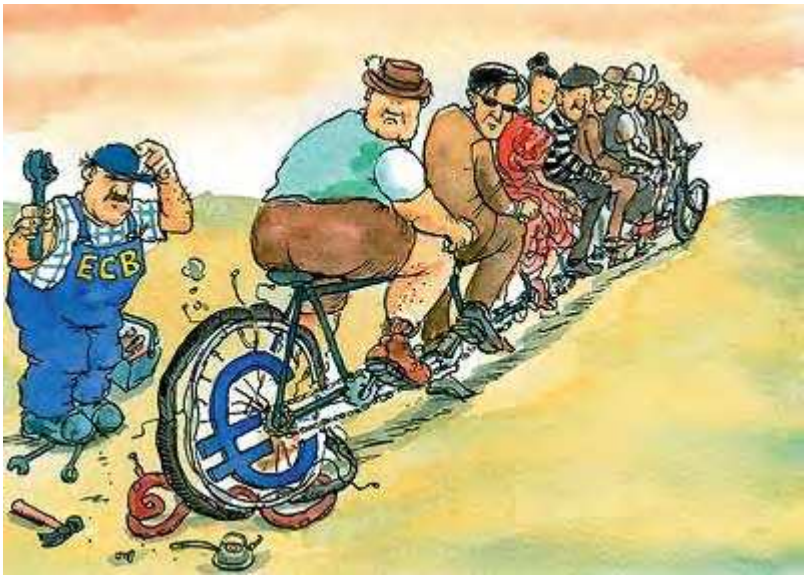

Testing times for the single currency and its guardian, the European Central Bank

Get article background

NOT many weeks ago, the question would have been almost risible: is the euro here to stay? Now the French and Dutch have rejected the European Union's constitution, and bad economic news about the euro area, especially its biggest economies, keeps trickling in. Jean-Claude Trichet, president of the European Central Bank (ECB), may dismiss the thought that Europe's monetary union might break up as “absurd”. For now, he is surely right: the euro zone is not about to fall apart, and with central and eastern European countries still keen to join, is more likely to grow than shrink in the next few years. Yet Europe's elite can no longer wave the idea away as mere impertinence.

Says who? For a start, 56% of the Germans polled for *Stern*, a weekly magazine, who want the D-mark back; the German officials and economists who discussed recently how, if push came to shove, a country might quit the euro; and Roberto Maroni, an Italian welfare minister, who said on June 3rd that his country would be better off with the old lira.

The idea also seems less silly than it did to financial markets. Currency traders, having pushed America's current-account deficit to the backs of their minds, have sold the euro down to about $1.22, from $1.35 at the start of the year. The idea that the euro area is becoming less cohesive is also reflected in bond markets: the spread between the yields on Italian and German ten-year government bonds is now around 17 basis points (hundredths of a percentage point), up from less than six at the end of January. Greek spreads have also widened.

A break-up of the euro area is still in the realm of small probability rather than likelihood. Take the big economy most under strain: Italy's. Relative to Germany's, Italy's unit labour costs have risen by around 20% since the euro was born, making its exports less competitive. Its GDP has shrunk in each of the past two quarters. It might be tempting, therefore, to imagine that, if the lira were revived, Italy could return to its old habit of trying to devalue its way out of trouble. Should the thought ever be seriously entertained, buyers of Italian government bonds would surely demand insurance against the risk of devaluation, in the form of higher bond yields. Spreads might be closer to the 650 basis points that they reached a decade ago than to today's 17. With Italian public debt over 100% of GDP, it is no wonder that politicians senior to Mr Maroni were quick to insist that they did not share his view.

Very likely, the Dutch and French noes would not have triggered such fuss—and might not even have happened—had the euro area been in decent economic shape. Italy is struggling most. But Germany, despite its buoyant exports, is suffering from feeble domestic demand. The panel of forecasters polled monthly by *The Economist* expects its GDP to grow by only 1.1% this year (see article). In France, more than one worker in ten is unemployed.

This economic weakness brings Europe's political malaise to the door of the ECB. Couldn't it jolly demand along by cutting interest rates, as lots of politicians and quite a few economists think it should? There is little chance of that just yet. Last week, even as its own staff cut its growth forecast for the zone to just 1.1-1.7% this year, the ECB held rates at 2%, as it has for the past two years.

For much of this year, indeed, Mr Trichet has sounded much more likely to raise rates than to cut them. On June 7th, he told Reuters: “I am not preparing for a rate cut.” Inflation in the euro area is 2%—adjacent to the ECB's target of “close to, but below 2%”—and inflationary expectations, says the central bank, are 1.9%. Cutting rates, he fears, could fuel inflationary expectations and thus push up long-term interest rates. Bond yields, he pointed out this week, are at their lowest since the first world war.

A lot of the trouble lies in the half-hearted nature of structural reform in much of Europe. This has left the euro zone with less room to grow, and the ECB with less room for manoeuvre, than America's Federal Reserve. A new report* by the Centre for European Policy Studies, a Brussels think-tank, argues that on average European monetary policy has been roughly as accommodating as, but much less variable than, America's in the past six years. The Fed has had more scope to move rates up or down as circumstances change.

Constrained though the ECB might be, markets are pricing in a rate cut in the next few months. And some economists think that on past form the ECB might now be cutting rates. Last week David Walton, of Goldman Sachs, told a conference on the ECB, organised by the Centre for Financial Studies, a Frankfurt research institute, that the ECB's interest-rate decisions have, by and large, tracked economic activity. Only when the euro area's purchasing managers' index (PMI) has been above 55 has the bank raised rates; readings below 50 have been the cue for a cut. The PMI is now in the cut zone.

Similarly, Mr Walton—who is about to become a central banker himself, by joining the Bank of England's Monetary Policy Committee—has constructed a “forward-looking Taylor rule” for the ECB. This explains interest-rate changes in terms of revisions to forecasts of inflation rates and the gap between actual and potential output. The rule tracked the ECB's behaviour pretty well until recently. With activity faltering, it now predicts a cut of half a percentage point, but there has been none.

The reason for the apparent increase in hawkishness? In a word, money. The ECB, uniquely among leading central banks, has a “two-pillar” monetary strategy: under the first pillar, it looks

at how economic activity might influence inflation; under the second, it focuses on monetary growth, to reflect the notion that inflation is a monetary phenomenon. For the past four years, money growth has been well above the bank's "reference value" of 4.5%.

At the same conference, Otmar Issing, the ECB's chief economist, explained how recent experience differs from the last time the ECB was cutting rates, in 2001-03. Then, rapid monetary growth could be explained away by investors shifting out of uncertain stockmarkets into cash. There seemed to be no risk that credit growth was getting out of hand. Since mid-2004, however, monetary growth has been fast, and so has lending. Although the real economy may look weak, the monetary warning lights have been flashing.

Such worries about monetary growth are not lightly dismissed, and are shared by some outside economists. Even if inflation remains low, excess liquidity could spill into asset markets. In some countries, this may have already happened: France, Ireland, Italy and Spain have all seen double-digit growth in housing prices. Cheaper money would risk a property-price boom and eventual bust. Germany's economy is arguably still labouring under the effects of just such an episode in the east of the country after reunification. German property prices are still flat.

Nevertheless, the euro area is wheezing. Domestic demand remains weak. The biggest economy, Germany, is on its back. The third-biggest, Italy, is shrinking. The ECB did not create the euro zone's troubles. But despite the monetary caveats, it could still ease them with a rate cut. Soon.

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* "EMU at Risk", by Daniel Gros, Thomas Mayer and Angel Ubide, June 2005.

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The Economist's Big Mac index

Fast food and strong currencies

Jun 9th 2005
From The Economist print edition

How much burger do you get for your euro, yuan or Swiss franc?

The hamburger standard

	Big Mac price in dollars*	Implied PPP† of the dollar	Under (–)/ over (+) valuation against the dollar, %
United States‡	3.06	–	–
Argentina	1.64	1.55	-46
Australia	2.50	1.06	-18
Brazil	2.39	1.93	-22
Britain	3.44	1.63§	+12
Canada	2.63	1.07	-14
Chile	2.53	490	-17
China	1.27	3.43	-59
Czech Republic	2.30	18.4	-25
Denmark	4.58	9.07	+50
Egypt	1.55	2.94	-49
Euro area	3.58**	1.05††	+17
Hong Kong	1.54	3.92	-50
Hungary	2.60	173	-15
Indonesia	1.53	4,771	-50
Japan	2.34	81.7	-23
Malaysia	1.38	1.72	-55
Mexico	2.58	9.15	-16
New Zealand	3.17	1.45	+4
Peru	2.76	2.94	-10
Philippines	1.47	26.1	-52
Poland	1.96	2.12	-36
Russia	1.48	13.7	-52
Singapore	2.17	1.18	-29
South Africa	2.10	4.56	-31
South Korea	2.49	817	-19
Sweden	4.17	10.1	+36
Switzerland	5.05	2.06	+65
Taiwan	2.41	24.5	-21
Thailand	1.48	19.6	-52
Turkey	2.92	1.31	-5
Venezuela	2.13	1,830	-30
Aruba	2.77	1.62	-10
Bulgaria	1.88	0.98	-39
Colombia	2.79	2124	-9
Costa Rica	2.38	369	-22
Croatia	2.50	4.87	-18
Dominican Rep	2.12	19.6	-31
Estonia	2.31	9.64	-24
Fiji	2.50	1.39	-18
Georgia	2.00	1.19	-34
Guatemala	2.20	5.47	-28
Honduras	1.91	11.7	-38
Iceland	6.67	143	+118
Jamaica	2.70	53.9	-12
Jordan	3.66	0.85	+19
Latvia	1.92	0.36	-37
Lebanon	2.85	1405	-7
Lithuania	2.31	2.12	-24
Macau	1.40	3.66	-54
Macedonia	1.90	31.0	-38
Moldova	1.84	7.52	-40
Morocco	2.73	8.02	-11
Nicaragua	2.11	11.3	-31
Norway	6.06	12.7	+98
Pakistan	2.18	42.5	-29
Paraguay	1.44	2941	-53
Qatar	0.68	0.81	-78
Saudi Arabia	2.40	2.94	-22
Serbia & Montenegro	2.08	45.8	-32
Slovakia	2.09	21.6	-32
Slovenia	2.56	163	-16
Sri Lanka	1.75	57.2	-43
Ukraine	1.43	2.37	-53
UAE	2.45	2.94	-20
Uruguay	1.82	14.4	-40

*At current exchange rates †Purchasing-power parity
‡Average of New York, Chicago, San Francisco and Atlanta
§Dollars per pound **Weighted average of member countries
Sources: McDonald's; *The Economist* ††Dollars per euro

ITALIANS like their coffee strong and their currencies weak. That, at least, is the conclusion one can draw from their latest round of grumbles about Europe's single currency. But are the Italians right to moan? Is the euro overvalued?

Our annual Big Mac index (see table) suggests they have a case: the euro is overvalued by 17% against the dollar. How come? The euro is worth about $1.22 on the foreign-exchange markets. A Big Mac costs €2.92, on average, in the euro zone and $3.06 in the United States. The rate needed to equalise the burger's price in the two regions is just $1.05. To patrons of McDonald's, at

least, the single currency is overpriced.

The Big Mac index, which we have compiled since 1986, is based on the notion that a currency's price should reflect its purchasing power. According to the late, great economist Rudiger Dornbusch, this idea can be traced back to the Salamanca school in 16th-century Spain. Since then, he wrote, the doctrine of purchasing-power parity (PPP) has been variously seen as a "truism, an empirical regularity or a grossly misleading simplification."

Economists lost some faith in PPP as a guide to exchange rates in the 1970s, after the world's currencies abandoned their anchors to the dollar. By the end of the decade, exchange rates seemed to be drifting without chart or compass. Later studies showed that a currency's purchasing power does assert itself over the long run. But it might take three to five years for a misaligned exchange rate to move even halfway back into line.

Our index shows that burger prices can certainly fall out of line with each other. If he could keep the burgers fresh, an ingenious arbitrageur could buy Big Macs for the equivalent of $1.27 in China, whose yuan is the most undervalued currency in our table, and sell them for $5.05 in Switzerland, whose franc is the most overvalued currency. The impracticality of such a trade highlights some of the flaws in the PPP idea. Trade barriers, transport costs and differences in taxes drive a wedge between prices in different countries.

More important, the $5.05 charged for a Swiss Big Mac helps to pay for the retail space in which it is served, and for the labour that serves it. Neither of these two crucial ingredients can be easily traded across borders. David Parsley, of Vanderbilt University, and Shang-Jin Wei, of the International Monetary Fund, estimate that non-traded inputs, such as labour, rent and electricity, account for between 55% and 64% of the price of a Big Mac*.

The two economists disassemble the Big Mac into its separate ingredients. They find that the parts of the burger that are traded internationally converge towards purchasing-power parity quite quickly. Any disparity in onion prices will be halved in less than nine months, for example. But the non-traded bits converge much more slowly: a wage gap between countries has a "half-life" of almost 29 months.

Seen in this light, our index provides little comfort to Italian critics of the single currency. If the euro buys less burger than it should, perhaps inflexible wages, not a strong currency, are to blame.

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* "A Prism Into the PPP Puzzles: The Microfoundations of Big Mac Real Exchange Rates". October 2004. Available at www2.owen.vanderbilt.edu/david.parsley/research.htm

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Economist.com FINANCE & ECONOMICS

American securities regulation

New offering

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The departure of three prominent men may signal the end of a frantic period of regulation for America's financial industry

SPECULATION is, of course, the norm in securities markets. The latest hubbub in America's financial industry, though, has less to do with whether markets soar or swoon than with how they will be regulated. Less vigorously, hope many, with the imminent departure of two top watchdogs—William Donaldson, chairman of the Securities and Exchange Commission (SEC), and Harvey Goldschmid, another member—and maybe that of a third—Eliot Spitzer, attorney-general of New York.

On June 2nd, the day after Mr Donaldson said he would quit at the end of the month, the Bush administration nominated Christopher Cox, a Republican congressman from California, to take his place. Mr Cox is thought to be at least as worried about excessive regulation as about wayward companies and financiers. In the mid-1990s, he backed limits on class-action lawsuits against firms whose share prices fell sharply. That earned him the gratitude of technology companies, which felt they were being unfairly penalised for the volatility of their earnings, and the ire of some lawyers, who lost a lucrative line of business. Mr Cox has long been eager to see an end to the double taxation of dividends, an idea that both makes economic sense and is supported by business. He also opposes expensing options, a stance that many companies like but is economically questionable.

This record should make Mr Cox, whose appointment must be approved by the Senate, a controversial nominee. However, his arrival is not the only change. When Mr Donaldson goes, the SEC will be split between two adamantly free-market Republicans and two interventionist Democrats. Mr Donaldson, though a Republican and an ex-Wall Street man, sensed that the markets were out of kilter and tended to side with the Democrats. The more visible of these has been Mr Goldschmid, a former professor at Columbia Law School, who is expected to return to teaching by the end of the summer.

In an article in the *Notre Dame Law Review* in March, Mr Goldschmid called America's recent financial scandals a “systemic failure” requiring serious correction. On the SEC, he pushed not only for stiffer penalties and more rules but also for more regulation of hedge funds and stock exchanges, as well as the possible regulation of rating agencies. With his departure, the SEC will lose its main enthusiast for rules.

Mr Goldschmid's keenness has been more than matched by Mr Spitzer's in New York. Soon after Mr Goldschmid returns to academia, Mr Spitzer will have to focus on his own attempt to change jobs. He wants to be New York's governor, and the 2006 race will begin to warm up. It will be time-consuming—and Mr Spitzer may have to consider the financial industry less as a target for litigation than as the largest source of jobs and taxes in the state.

Of the three men's legacies, Mr Spitzer's is especially hard to assess. By using the Martin act, an old state law, he has been able to threaten criminal indictments and thus force quick settlements.

But because he has avoided trials, his theories have not been enshrined in case law. Only two big cases are likely to come to court: the prosecution of Richard Grasso, former chairman and chief executive of the New York Stock Exchange, for, in essence, greed; and that of Hank Greenberg, former boss of American International Group (AIG), a huge insurer, for accounting fraud. And Mr Spitzer may be gone before the trials.

The effect of Mr Donaldson's tenure is hard to disentangle from that of Mr Spitzer's. The settlements over Wall Street research, arranged by Mr Spitzer and the SEC, separated investment banking from research. However, there is little sign that research has become much better. Enron may have had only boosters among analysts; but much the same was true of AIG, now under close scrutiny. And a lot of Wall Street firms now cover many fewer stocks, making it particularly hard for small companies to win attention.

Similarly, new rules drawn up after the mutual-fund scandals have been a mixed blessing. The two largest fund companies, Fidelity and Vanguard, must weaken their hold on the boards of funds they sponsor, despite years of successful results and no involvement in the scandals. Meanwhile, the SEC's authority over fund management is a bit of a mess. It covers mutual funds (broadly) and hedge funds (slightly), but not pension funds, a huge vat of money of great importance both to individual Americans and to companies.

Perhaps the best result is that some firms are changing their ways without waiting to be asked. Massachusetts Financial Services, an asset manager, has banned soft-dollar commissions (opaque kickbacks from brokers). Citigroup and Legg Mason are said to be discussing a swap of the latter's broking operation for most of the former's asset-management business, because having the two compromises brokers' duty to their clients. If Mr Cox's SEC could find a way of deciding which conflicts of interest are tolerable and which not, it might win fewer headlines, but leave a more lasting legacy.

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Economist.com FINANCE & ECONOMICS

Nigeria's banks

Consolidate, or else

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The hard task of reforming Nigeria's banking system

Reuters

Busy times in Lagos

AN INCREASINGLY common way for banks to attract new depositors in Nigeria is to hire fleets of young women and send them around Lagos's Victoria Island business district in skimpy outfits. Many of these “relationship managers” complain of having to provide “other” services to win customers.

The marketing methods are a reflection of the enormous official pressure on the banks. Last year, Charles Soludo, governor of the Central Bank of Nigeria and a leading member of the country's economic-reform team, stunned bank bosses when he ordered banks to raise their minimum capital base twelvefold, to 25 billion naira ($190m), within 18 months or face being banned from holding public-sector deposits and participating in the foreign-exchange markets.

Mr Soludo's directive was intended to spur on a consolidation of Nigeria's fragile and overcrowded banking sector, mainly through mergers. The aim is eventually to reduce the number of banks from 89 to about 12. Many banks are family-owned and exist only because of their close connections to Nigeria's political elite.

Oil-rich Nigeria is Africa's most populous country, with 130m people. Its economy is still largely lubricated by cash. Mr Soludo wants to see more banks offering the right services to ordinary depositors, which in turn will help stabilise the lending environment in one of the continent's biggest economies.

“Some of our banks are not engaged in strict banking business in terms of savings intermediation. They are traders—trading in foreign exchange, in government treasury bills, and sometimes in direct importation of goods through phoney companies. This is not healthy for the economy,” Mr Soludo told the banks' executives.

Merge and survive

With seven months to go before the capitalisation deadline, results have been mixed. Preliminary consent has been given for a merger between two of Nigeria's biggest banks, United Bank for Africa and Standard Trust Bank. Around 60 formerly independent banks have formed 18 new groups that are in various stages of agreements on mergers.

But analysts say that the mergers may not rid the industry of its sleazy reputation. They also worry that the problems of integration, such as how to restructure branch networks, may be buried in the rush to meet Mr Soludo's deadline.

According to Bismarck Rewane, an analyst at Lagos-based Financial Derivatives, many of the banks have managed to meet the capitalisation benchmark by raising capital through share offerings and entering into special treaties which sometimes involve the exchange of loans for deposits. “There has been a lot of recapitalisation. But there has been no real consolidation in the sector, just a lot of playing with mirrors,” says Mr Rewane.

Around a dozen banks have raised money through initial public offerings (IPOs). However, in March four banks were asked to return the equivalent of around $380m because they had funded IPOs through shareholder deposits and illicit foreign money. Meanwhile, the central bank has been forced into propping up the banks, for fear that its reforms may provoke a systemic collapse. It suspended the recall of 74.5 billion naira of public-sector deposits from banks last year, which had been intended to lessen banks' dependence on cyclical government funds. More recently, the central bank said it would cancel 80% of the debts owed to it by eight troubled banks, in order to avoid a crisis of confidence and to make the banks attractive to buyers. Mr Soludo has said that this would be a one-off measure.

Apparently undeterred by the continuing difficulties facing some institutions—and by the country's lack of an international credit rating—foreign banks are eyeing the Nigerian market for bargains. South Africa's biggest retail lender, Absa, is set to acquire a majority stake in a Nigerian group formed by the merger of three banks. Absa itself is coming under the control of Britain's Barclays. Analysts estimate that there is probably room for three or four larger foreign banks to help consolidate the Nigerian market.

But because the fiddling by many of the banks has ensured that they will survive Mr Soludo's planned consolidation, there will probably have to be another round of mergers before the central bank's target is met. Still, unless the central bank is prepared to stand behind the banks for ever, some will have to fall by the wayside as both foreign and bigger Nigerian banks sweep up the vast potential market for deposits and mortgages.

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Economist.com FINANCE & ECONOMICS

Banking and credit cards

Putting it on plastic

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Washington Mutual goes shopping

THE purchase, says the buyer, will be a “transformational” deal. That is no small claim, when the buyer is one of America's biggest and fastest-growing banks. On June 6th Washington Mutual (WaMu), the country's seventh-biggest bank by assets and one of its biggest mortgage lenders, said it would pay $6.5 billion in stock and cash for Providian Financial, a once-troubled credit-card provider.

Purchasing Providian will alter the balance of WaMu's business. Just as important, WaMu will hope that the deal will enable it to pull away from the sticky patch it has been in for a year or so. A long run of speedy growth, fuelled by acquisitions and America's mortgage boom, faded last summer, owing to a slowdown in mortgage refinancing and sloppy hedging. With home-related lending making up more than 90% of its interest income, the bank has been trying to diversify, notably by expanding its retail business through a rapid programme of branch openings. By buying America's ninth-biggest credit-card issuer, WaMu will diversify further. It hopes to cross-sell its mortgage and other products to Providian's 10m customers and to push Providian's credit cards through its own 2,500 branches.

Providian should gain too: hitching itself to a big lender with lots of cheap retail deposits will cut its borrowing costs. The credit-card firm has done much to right itself since 2001, when the economic slowdown hit its sub-prime customers (ie, those considered too risky for mainstream loans) particularly hard and defaults soared. Providian was hit by class-action lawsuits and regulatory investigations for price-gouging, which cost hundreds of millions of dollars in settlements. Most of its growth since then, says Steve Wharton of Morgan Stanley Investment Management, has come from cost-containment—lay-offs, trimming delinquencies and getting rid of bad loans—rather than top-line growth. To enable its receivables to grow, and to compete in an industry where consolidation has created huge players, it made sense to tie itself to a bank with deep pockets.

The deal may, however, be less “transformational” than it sounds. Providian does diversify WaMu's business—but not much. Its $18.1 billion in credit-card loans is tiny compared with WaMu's assets of $320 billion. And although Providian has moved a little upmarket since the catastrophe of 2001, it remains mainly a sub-prime lender. It therefore adds to WaMu's credit risk, just when the bank's own sub-prime mortgage portfolio has been growing. Portales Partners, a research firm, notes that sub-prime mortgages increased from $10.1 billion (7% of WaMu's loans) to $21.5 billion (10%) between 2002 and the first quarter of this year.

Rising interest rates could cause consumer spending to tail off and defaults to increase. Although the housing market remains in fair shape, as long-term interest rates remain low even while the Federal Reserve increases short-term rates, it is likely to slow down sometime. And success in the hyper-competitive credit-card industry is anything but sure. The market is saturated and highly concentrated. The industry's growth rate, reckon analysts at Fitch, a rating agency, will be in low single digits in the next few years. WaMu might not be transformed just yet.

Economist.com FINANCE & ECONOMICS

South Korea's economy

High tech, low growth

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If only South Korea's economic policies were as modern as its technology

WHILE the country's scientists and engineers churn out astonishing discoveries and devices, its economic policies look out of date. South Korean researchers have found new ways to clone human stem cells; the cars in Hyundai Motor's new Alabama plant are flipped this way and that while being painted. Economic officials, meanwhile, are still cloning mercantilist foreign-exchange policies from the 1970s, while the central bank does somersaults in an effort to explain its currency and interest-rate policies.

South Korea's economy is slowing sharply. Seasonally adjusted, industrial production was 1.7% lower in April than in March. Private consumption is only slowly recovering from a burst credit-card bubble in 2002-03. The government's consumer-expectation index for May, published on June 9th, showed a second consecutive monthly fall. The finance minister now says that this year's GDP growth target of 5% looks “impossible”. Poor stuff, for an economy next door to booming China.

The core problem is that South Korea, despite its skilled workforce and large middle class, has not yet developed a strong and diverse local economy. Instead, policies have been skewed towards boosting exports, which benefit a few giant conglomerates, in ways that stifle domestic demand. So as the won has risen by 15% over the past year (see chart), partly in anticipation of a revaluation of the Chinese yuan, and as demand for electronics and other exports has waned, the economy has had little else to fall back on.

The central bank has been slow to correct the problem. The Bank of Korea (BoK) has been preoccupied with slowing the appreciation of the won, by intervening heavily last year in currency

markets. Intervention is understandable, given South Korea's dependence on exports. Yet the central bank has also worked furiously to offset the effects of this policy at home, by vacuuming up the extra currency it has printed in order to prop up interest rates.

A policy puzzle

This is odd, given the need to boost domestic demand. The core inflation rate (ie, excluding food and energy prices), at 2.5%, is at the bottom of the BoK's target range. So with demand and confidence still weak, further cuts in official interest rates, now 3.25%, would make sense. But the central bank is holding rates—as it did on June 9th, for the seventh month running. Many onlookers think it will keep rates steady while it pursues two other objectives that have little to do with economic stability.

One of these concerns capital flight. The country still maintains controls on capital outflows, requiring South Koreans to get permission for most transfers greater than 10m won ($10,000). Many have been flouting these rules, for example by snapping up property in America and passing off the investment as educational expenses for children studying abroad. Some control-dodgers may be trying to escape potential taxes under the populist president, Roh Moo-hyun. Others are simply unimpressed by Mr Roh's other economic policies. The central bank seems to be propping up interest rates in the hope of stemming outflows.

But why try to restrict these outflows so much? The country hardly seems at risk of a currency crisis. Its banking system has recovered nicely from the 1997-98 Asian meltdown. The central bank has more than $200 billion in foreign-currency reserves, the fourth-largest stockpile in the world and enough to pay for nearly a year's-worth of imports. Nor is the economy burdened with a load of short-term debt denominated in foreign currency, which caused so much trouble for Asian countries in 1997-98. So there seems to be little reason to stop South Koreans investing some of their savings abroad.

No such restrictions apply to the state. It has set up a new unit, modelled on Singapore's Government Investment Corporation, to invest some of its huge reserves in higher-yielding foreign assets. Instead of maintaining overly high interest rates, hoarding foreign exchange and investing it abroad, it would seem far more sensible to loosen monetary policy and boost domestic demand—and let South Koreans invest directly in foreign assets if they wish.

The central bank's other fear is that cutting interest rates will spur property-price inflation. This also seems at odds with the state of the economy. Domestic demand could use a boost—in particular, consumers are still understandably reluctant to take on fresh debt. If lower interest rates did manage to boost home prices, people might feel richer and spend more.

Some economists believe that the central bankers are afraid to let home prices rise because it is inconsistent with South Korea's egalitarian bent. “It is almost as if the Bank of Korea is part of the Roh administration,” says one private-sector economist. Others point out that economic officials in Seoul, as elsewhere in Asia, are preoccupied with exercising control. “Look at [the Bank of Korea's] currency interventions and foreign-exchange reserves,” says an analyst in Seoul, “and you can clearly see the obsession.”

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Economist.com FINANCE & ECONOMICS

Economics focus

A question of management

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Why do so many badly run companies survive?

TO BOTH its admirers and its enemies, the most awe-inspiring feature of capitalism is its ruthless efficiency. In theory, poorly performing firms are shown no mercy. They are crushed and cast aside as fitter rivals come up with superior goods and services or cheaper methods of production. In fact, the system is nothing like as ruthless as it is cracked up to be. Plenty of suppliers fail to deliver goods on time. Lots of firms are slow to adopt new technology. Many managers are hopeless at motivating their staff. And badly run firms can survive for years, even in the same industry as state-of-the-art companies.

All of this has long had economists pondering two questions. First, why are there such wide differences in the productivity of competing companies? Second, why do these differences persist, rather than being squeezed to nothing by the remorseless market? They ascribe some of the gaps to differences in the quality of capital equipment, or in workers' skills, or in the development and installation of new technology. But there has long been a suspicion that quite a lot of the discrepancy between fit and flabby firms has to do with the quality of management.

The difficulty lies in putting a number on it. If economists are to explain company performance in terms of management practices, these must somehow be quantified. But how do you measure the "quality" of the layout of a shop floor, communication with workers or incentives for employees? An intriguing new study* by Nick Bloom and John Van Reenen, of the London School of Economics, and Stephen Dorgan, John Dowdy and Tom Rippin, all consultants at McKinsey, attempts to do just that, and goes on to examine why badly run firms survive.

The study is based on interviews with managers at more than 730 manufacturing companies (none of them McKinsey clients), ranging from 50 employees to 10,000, in America, Britain, France and Germany. The interviewees knew only that they were taking part in a "research" project, not that their management practices were being appraised. The answers were given a score between one, the worst, and five, the best, in each of 18 categories. For instance, under one heading a British consumer-products firm whose managers' only meaningful performance target was volume (with no mention of quality or waste) scored one; a German industrial-goods firm that focused on market share and technological leadership (but did not make shop-floor workers aware of these goals) scored three; and an American manufacturer that communicated financial targets to its shop floor by telling workers that they packed boxes until lunchtime to cover overheads and after that for profit—and that played a jingle if the break-even point was reached early—scored a full five.

The American companies came out on top, averaging 3.37, followed by the Germans (3.32), the French (3.13) and the British (3.08). However, in each country there was a wide range of scores: only 3% of the variation could be explained by the country of operation. One-fifth was accounted for by variation between industries. Three-quarters of it persisted among firms in the same country and industry. Thus, even among competing neighbours, there was huge variation in

management practices.

Differences in management practices do seem to matter. The authors estimate that they account for 10-15% of the gap in total factor productivity (after stripping out differences in capital inputs) between American and British firms. And higher management-practice scores correlated with higher returns on capital employed, sales per employee, sales growth and growth in market share. So if poor management does not pay, why does it last?

The authors suggest three reasons. First is the degree of competition in an industry. In industries in which profit margins are low, there are many rivals or imports have a big market share, management practices tend to be better. There is little evidence, though, that competition raises standards by forcing managers to work better. More important, say the authors, is their second explanatory factor: the age of companies. Competition works mainly by weeding out young, badly managed firms.

Age and decay

On the one hand, younger companies might be expected to be better managed than older ones—or at least to be more open to the latest ideas—because they have had less time to get set in their ways. On the other, older companies are survivors by definition, so they are likely to be better managed than most. The authors find that in the least competitive industries, the former effect dominates: firms tend to be worse managed, the older they are. In the most competitive industries, management improves with age for a few years before declining: the worst-managed firms are found out, and fail, before long.

The third reason that the authors suggest for the persistence of poor management practices is regulation—in particular, restrictive labour laws—which seem to protect laggards. They find that tighter labour laws (such as those in France and Germany) do seem to drag managerial performance down. The effect is magnified where managers have been in their jobs longest—perhaps because such managers are less inclined to initiate change.

It is surprising that the study finds so little international variation in the quality of management practice. There is, however, much to be learned from foreigners. The authors reckon that American-owned companies in Europe did better than purely local firms or those owned by European multinationals. Remember, too, how Japanese car plants overseas left the locals trailing, even in America? And it would be interesting to extend the survey, as the authors propose, to China, the world's newest manufacturing power, and see how its firms measure up.

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* “Management Practices Across Firms and Nations”: http://cep.lse.ac.uk/management and www.mckinsey.co.uk

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Economist.com SCIENCE & TECHNOLOGY

Modelling the brain

Grey matter, blue matter

Jun 9th 2005
From The Economist print edition

The first serious attempt to build a computer model of the brain has just begun

THE most complex object known to humanity is the human brain—and not only is it complex, but it is the seat of one of the few natural phenomena that science has no purchase on at all, namely consciousness. To try to replicate something that is so poorly understood may therefore seem like hubris. But you have to start somewhere, and IBM and the Ecole Polytechnique Fédérale de Lausanne (EPFL), in Switzerland, propose to start by replicating "*in silico*", as the jargon has it, one of the brain's building blocks.

In a partnership announced on June 6th, the two organisations said they would be working together to build a simulation of a structure known as a neocortical column on a type of IBM supercomputer that is currently used to study the molecular functioning of genes. If that works, they plan to use future, more powerful computers to link such simulated columns together into something that mimics a brain.

In a real brain, a neocortical column is a cylindrical element about a third of a millimetre in diameter and three millimetres long, containing some 10,000 nerve cells. It is these columns, arranged side by side like the cells of a honeycomb, which make up the famous "grey matter" that has become a shorthand for human intelligence. The Blue Gene/L supercomputer that will be used for the simulation consists of enough independent processors for each to be programmed to emulate an individual nerve cell in a column.

The EPFL's contribution to the Blue Brain Project, as it has inevitably been dubbed, will be to create a digital description of how the columns behave. Its Brain Mind Institute has what is

generally regarded as the world's most extensive set of data on the machinations of the neocortex—the columns' natural habitat and the part of the brain responsible for learning, memory, language and complex thought. This database will provide the raw material for the simulation. Biologists and computer scientists will then collaborate to connect the artificial nerve cells up in a way that mimics nature. They will do so by assigning electrical properties to them, and telling them how to communicate with each other and how they should modify their connections with one another depending on their activity.

That will be no mean feat. Even a single nerve cell is complicated, not least because each one has about 10,000 connections with others. And nerve cells come in great variety—relying, for example, on different chemical transmitters to carry messages across those connections. Eventually, however, a digital representation of an entire column should emerge.

This part of the project is expected to take two to three years. From then on, things will go in two directions simultaneously. One will be to “grow” more columns (the human brain contains about 1m of them) and get them to interact with one another. The second will be to work at a more elementary level—that is, to simulate the molecular structure of the brain, and to look at the influence of gene expression on brain function.

Assuming that the growth of computing power continues to follow Moore's Law, Charles Peck, the leader of IBM's side of the collaboration, reckons it should be feasible to emulate an entire human brain *in silico* this way in ten to 15 years. Such an artificial brain would, of course, be a powerful research tool. It would allow neurological experiments that currently take days in a “wet lab” to be conducted in seconds. The researchers hope, for instance, that their simulated brain will reveal the secrets of how certain psychiatric and neurological disorders develop. But that is probably not the real reason for doing it. The most interesting questions, surely, are whether such an artificial brain will be intelligent, or conscious, or both.

Rhapsody in blue?

Some academics, such as Roger Penrose of Oxford University, argue that brains do not work in a way comparable with a computer, so any kind of simulation that is built on digital architecture and uses traditional programming techniques is doomed to failure. Dr Penrose thinks that exotic quantum processes are involved in the generation of consciousness. The “Blue Brain” project will help to determine whether he is right or wrong.

Henry Markram, the boss of the Brain Mind Institute, and the leader of the EPFL's side of the collaboration, stresses that Blue Brain's formal goal is not to build an artificial intelligence system, such as a neural network. Nor is it to create a conscious machine. The goal is merely to build a simulacrum of a biological brain. If the outputs produced by the simulation in response to particular inputs are identical to those in animal experiments, then that goal will have been achieved. On the other hand, he also says, “I believe the intelligence that is going to emerge if we succeed in doing that is going to be far more than we can even imagine.” Watch this space.

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Economist.com SCIENCE & TECHNOLOGY

Scientific ethics

The truth will out

Jun 9th 2005
From The Economist print edition

A white coat does not guarantee a clean conscience

WE'VE all done it—fudged that measurement in a school science exercise to make the answer come out just right. Well, it looks as if we are in venerable company. In a paper in this week's *Nature*, Brian Martinson, from the HealthPartners Research Foundation in Minneapolis, and Melissa Anderson and Raymond de Vries from the University of Minnesota, report the results of a survey of the ethical habits of American biomedical scientists. In this, the first large study of its kind, they found that 33% of respondents admitted committing at least one professionally dubious act in the previous three years.

In 2002, the three researchers posted surveys to a group of scientists funded by America's National Institutes of Health (NIH), the federal government's main biomedical research body. The respondents were at various stages in their careers, but there were roughly as many with established reputations as there were young post-doctoral whippersnappers. In order to encourage as much honest self-incrimination as possible, all respondents remained anonymous.

Dr Martinson and his colleagues asked whether the scientists they polled had been involved in any of a number of types of ethical transgression over the previous three years. These transgressions ranged from the relatively minor—presenting the same results in two or more publications, and inadequate record-keeping—to the unquestionably weighty, such as falsifying data and stealing others' ideas.

The most serious offences were rarely committed. Only 0.3% of respondents had cooked their data, and only 1.4% had stolen someone else's idea. But the prevalence of lesser offences was much higher than Dr Martinson had expected. A range of misdemeanours, including overlooking flaws in a colleague's data, dropping inconvenient data based on a “gut feeling”, and failing to report data that contradicted his own previous research, had each been committed by at least one researcher in 20.

Of scientists in mid career, 38% admitted to committing at least one offence in the previous three years, while only 28% of early-career respondents did so. It was not clear whether the younger researchers were more wary of confessing, or simply lacked the opportunities or cavalier attitudes of the older scientists.

As to motive, only 0.3% of those surveyed admitted that they had “not properly disclosed involvement in firms whose products are based on one's own research.” On the other hand, 15.5% did admit to “changing the design, methodology or results of a study in response to pressure from a funding source.” These results are particularly relevant in the light of the decision in February by Elias Zerhouni, the NIH's boss, to establish stringent new conflict-of-interest rules. NIH employees are now banned from consulting for biotech and pharmaceutical companies. From next month, senior staff will also be forbidden to own shares in such companies.

The authors hold that the lapses they found, though mostly small, may do greater damage to the

business of science than the unholy trinity of “fabrication, falsification or plagiarism” which America's Office of Science and Technology Policy officially defines as “research misconduct”. Death by a thousand short cuts, they reckon, poses a greater threat to the business of science than the occasional outright fraud.

To those working in scientific research these results will come as no surprise. Science is a human institution, and as such it is vulnerable to all the vagaries and foibles of human nature. In addition, scientists often shoulder the burden of securing funding and managing large laboratories, both of which risk encouraging a “creative” attitude towards results. Dr Martinson and his colleagues point to researchers' perceptions about the reactions of funding agencies, and of the reviewers who decide whether research papers are worthy of publication, as being particular sources of concern. The authors thus suggest that more attention should be paid to the context in which scientists work.

In the end, of course, the truth does tend to out itself. Important experiments will be repeated, and frauds thus exposed. But ethical lapses like those described by Dr Martinson and his colleagues do make that process slower and more painful than it need be.

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Economist.com SCIENCE & TECHNOLOGY

Sex

Twin peaks

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From The Economist print edition

Top tip for a better sex life: better genes

AVID readers of women's magazines will, no doubt, be familiar with the latest “three tips” to their “best orgasm ever”. They and their exhausted partners may, however, take comfort from the fact that a group of scientists has just found that technique is not everything. Genes, it seems, also make a big contribution to a woman's ability to reach orgasm.

The researchers in question—Kate Dunn, who works at Keele University, near Stoke, in England, and Tim Spector and Lynn Cherkas of St Thomas' Hospital in London—came to their conclusion by exploring orgasmic ability in twins. Their finding, reported this week in *Biology Letters*, is that between 34% and 45% of the variation between women in their ability to orgasm can be explained genetically.

A twin study assumes that the individuals in pairs of identical and non-identical twins had shared family environments when they were young, allowing the genetic basis of behavioural traits to be teased out. If identical twins (who have all their genes in common) show a greater similarity in their expression of a particular trait than do non-identical twins (who have only half their genes in common), that suggests the trait is, at least in part, the result of genetic influences. To draw their conclusions, the researchers therefore asked their twins questions about how frequently they achieved orgasm through intercourse and masturbation.

What this study does not show, of course, is what the genes that influence orgasm are actually doing. One possibility is that they control the anatomy of the G-spot, a concentration of nerves in the vagina. Another is that they control variations in the pleasure centres in a woman's brain. A third is that they regulate susceptibility to anxiety, which gets in the way of an orgasm. Or it may be all three.

Nor is it clear just what orgasm is for. A variety of theories have been proposed—from cementing pair bonds between men and women to sucking into the uterus only the sperm of those males that have given a woman the most pleasure (and thus, at the same time, provided incontrovertible evidence of their physical fitness). All these theories, however, suffer from one basic defect, according to a new book on the subject by Elisabeth Lloyd*. This is that no study has yet established a reliable link between a woman's capacity to orgasm and either her ability to reproduce or how many children she eventually bears.

Another study just published in *Biology Letters*, by Sarah Kilgallon and Leigh Simmons at the University of Western Australia, has, however, thrown light on a previously unexplored part of the male side of reproduction. This is the question of sperm competition.

It has been known for years that in a range of animals from insects to birds the males increase the quality and quantity of the sperm they ejaculate when those sperm are likely to find themselves in competition with sperm from another male. Dr Kilgallon and Dr Simmons show that something similar happens in humans.

In this study, men were asked to abstain from all sexual activity for at least 48 hours before giving a semen sample. The semen was taken after the 52 men in the study were shown one of two types of pornographic image. The first depicted two men and a woman, while the second showed a picture of three women. The theory was that the first image, showing both a desirable female and several competitors, would be likely to induce sperm competition. Indeed it did. Men viewing this image had a higher percentage of motile sperm in their ejaculate.

Another facet of this study was that the researchers used a survey to tease out other factors that might be influencing semen quality. Keeping a mobile phone close to the testes, they found, had a significant negative impact on sperm numbers and motility, though they do not speculate why that might be.

There are some important messages for both sexes from all this research. Women might be interested to observe that certain kinds of pornography can increase their partners' fertility. And men might like to note that mobile phones are not intended as a form of contraception. And, while some men may take heart from the news that the sexual dissatisfaction of their lovers is not necessarily their fault, there is a flip side to the findings. The fortunate 14% of women who always have an orgasm seem to do so for reasons that have more to do with luck than skill.

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* “The Case of the Female Orgasm: Bias in the Science of Evolution”, by Elisabeth Lloyd. Harvard University Press.

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Economist.com SCIENCE & TECHNOLOGY

Tool-using dolphins

Mother knows best

Jun 9th 2005
From The Economist print edition

Culture in the ocean depths

AP

Look, Mum!

THERE was a time when the ability to make and use tools was regarded as a purely human trick. So was the possession of culture—that is, the ability of individuals to learn patterns of behaviour from others and, eventually, to pass them down the generations.

This anthropocentric view of the world is long gone in zoological circles. The manufacture and use of tools has been observed in many species (chimpanzees “fishing” for termites using specially prepared twigs, for example). So has the transmission of ideas (washing food in the sea to get rid of sand grains, by Japanese monkeys). And indirect evidence from chimps suggests that tool use itself is culturally transmitted, with different groups having different cultural traditions. But now a group of researchers led by Michael Krützen, of the University of New South Wales, in Sydney, has found evidence of culturally transmitted tool use under the sea. The bottlenose dolphins of Shark Bay in Western Australia, it seems, like to mop up their food with sponges, and they learn the trick at their mother's flipper.

Or, rather, some of them do. The animals in question break off bits of sponge, cover their beaks with them, and probe the sea floor for fish. Whether the sponge aids the probing, or merely makes it more comfortable, is not clear. But what is clear from Dr Krützen's study, published in the *Proceedings of the National Academy of Sciences*, is that the sponge-using dolphins are related to one another. They all share the same mitochondrial DNA, a type of DNA transmitted to offspring only from their mothers. All seem, therefore, to be descended from the same female. Moreover, all but one of the spongers are female, too.

At first sight, that suggests the explanation for sponging could be either cultural transmission

within a clan, or genetic transmission of a recent tool-use-inducing mutation. But the detailed statistical analysis of the genetics of the spongers that Dr Krützen carried out shows that a mutated gene could not explain the pattern of sponging individuals actually observed. The researchers are therefore reasonably sure that what they are seeing is cultural transmission from mother to child.

Why sponging should be so sex-specific is, however, still a mystery. Maybe female dolphins are smarter than males—or, at least, pay more attention to what their mothers tell them. Or maybe they are just more sensitive to sticking their noses into the seabed.

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The power of economic growth

Asia ascending

Jun 9th 2005 | HONG KONG
From The Economist print edition

AFP

Three new books examine the rise of China and the rest of Asia, and draw starkly different conclusions about what this means for the rest of the world.

CLYDE PRESTOWITZ'S “Three Billion New Capitalists” will make unhappy reading for Americans. China's growing domination of global manufacturing and India's booming IT services sector have led to a shift of skilled jobs from the west to the east. Declining standards in American schools and government laisser-faire are costing America its position as a world centre for science and innovation. America's trade imbalances are putting the dollar under terrible strain. All in all, Mr Prestowitz argues, the economic transformation of China and India will mean the demise of America and a looming global economic crisis.

But is his pessimism overdone? The emergence of all those new capitalists (more than a billion each from China and India, the rest from Russia and eastern Europe) is surely grounds for celebration, given the increase in world growth that this portends. But Mr Prestowitz, a former Reagan administration official who runs his own Washington think-tank, writes from a narrow national perspective. He sees only threats—to America's jobs, its living standards, even its survival.

Some of his points hit home. The dollar's role as the world's reserve currency has indeed exempted America from having to worry overly about

Three Billion New Capitalists: The Great Shift of Wealth and Power to the East
By Clyde Prestowitz

Basic Books; 379 pages; $26.95 and £15.99

Buy it at
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Amazon.co.uk

its debts. Meanwhile, many Asians are saving too much, hence the economic imbalances facing the world today. Parts of America's educational system and infrastructure badly need modernising and the country has lost much of its manufacturing industry, from 28% of GDP in 1949 to 12% or thereabouts now.

But the remedies that Mr Prestowitz proposes betray his agenda as a disillusioned Republican. He wants America to institute an “industrial policy” to regain competitiveness and protect its technology; in other words for the government to pick winners among industries and companies. And he advocates protectionism where other trading partners do not play “fairly”. While such an approach might save jobs in the short run, open markets and trade surely remain the best way to raise overall global growth and wealth sustainably—the reason why the three billion have turned to capitalism in the first place. Mr Prestowitz seems more concerned about dividing the pie than expanding it. In making his point, he overstates his case. America's corporate sector, technology, research and entrepreneurial tradition remain second to none. Nor are the emerging Asian nations (even China) as monolithic and as single-minded in their quest for advancement as he implies.

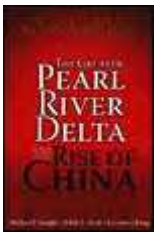
Indeed, the point that China is an agglomeration of loosely coupled regional economies—some successful, some less so—is well made by Michael Enright, a professor at the University of Hong Kong, and his colleagues in an excellent and exhaustive new study of the greater Pearl River Delta (PRD) area. This region of southern China, encompassing much of Guangdong province, Hong Kong and Macao, is where the mainland's economic reform and renaissance began in 1979. It still leads from the front today; with a GDP of more than $270 billion, the PRD is the world's sixteenth biggest economy and tenth largest exporter. Mr Enright is optimistic for the future, arguing that as China liberalises further, the PRD—with its high density of companies benefiting from foreign investment and operating at world-class standards will benefit disproportionately.

But the PRD's rise was made possible only because of its proximity to Hong Kong, which offered access to capital and business know-how and which served as an investment platform into Guangdong, first for its own companies and then for those from the rest of the world. The success of China's economic engine, in other words, was not the foregone conclusion that Mr Prestowitz would argue.

Another example of the importance of luck comes in Donald Sull's new book, “Made in China”. Taiwan's Wei brothers had tried to build a food business on the mainland. They were almost ready to give up, when the youngest brother, during a long train trip to Beijing, opened a package of Taiwanese instant noodles and was nearly mobbed by his fellow passengers. Today, the Wei's Master Kong noodles have nearly half the mainland market—far more than they enjoy back home.

Mr Sull, a professor of management at London Business School, decided to look at China's entrepreneurs in order to learn about managing in a highly unpredictable market. It is a good idea in principle. Unfortunately, his profiles are little more than thumbnail sketches, while the lessons drawn from the entrepreneurs' experiences are too often banal—one should seize “golden opportunities” and execute a strategy aggressively. Few readers outside China will have heard of the eight companies studied, apart from a white goods group named Haier, and Lenovo, which has

Regional Powerhouse: The Greater Pearl River Delta and the Rise of China
By Michael J. Enright, Edith E. Scott and Ka-mun Chang



John Wiley; 320 pages, $29.95 and £19.99

Buy it at
Amazon.com
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Made in China: What Western Managers Can Learn from Trailblazing Chinese Entrepeneurs
By Donald N. Sull with Yong Wang

Harvard Business School Press; 231 pages; $35 and £19.99

Buy it at
Amazon.com
Amazon.co.uk

just taken over IBM's personal computer division. And although the book is only just finished, one company has already had a severe profit warning (UT Starcom, a telecoms equipment group), a second may shortly be taken over by a rival (Internet portal Sina) and a third lost its chief executive in April after a sharp drop in profits (AsiaInfo, another telecoms firm). It may happen one day, but China is not yet ready to take over the world.

Three Billion New Capitalists: The Great Shift of Wealth and Power to the East
By Clyde Prestowitz.
Basic Books; 379 pages; $26.95 and £15.99

Regional Powerhouse: The Greater Pearl River Delta and the Rise of China.
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By Donald N. Sull with Yong Wang.
Harvard Business School Press; 231 pages; $35 and £19.99

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Economist.com BOOKS & ARTS

Guantánamo Bay

Not a nice place

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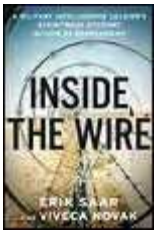
REPORTS of the brutality of American interrogators—or their surrogates in Egypt and Uzbekistan—have become commonplace. Still, this book, by an army sergeant who spent six months at the American prison camp at Guantánamo Bay, has something to add, not because of what it says about the effects of inhumane treatment on suspects, but for what it did to soldiers like himself.

Inside the Wire: A Military Intelligence Soldier's Eyewitness Account of Life at Guantánamo
By Erik Saar and Viveca Novak



Penguin Press; 256 pages; $24.95

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Erik Saar is “every American”. At the age of 22, he had never been outside his own country, had been married for three years and had proudly voted Republican in 2000. Not seeing much future in a marketing job at UPS, he joined the army to pursue a career in intelligence. The army taught him Arabic, and after September 11th, he “couldn't imagine anything more satisfying” than using his training to “flush out the terrorists who wanted to bring on a holy war.”

At Guantánamo, Mr Saar's world crashed. He attended a PowerPoint briefing by an army lawyer on the Geneva Convention, which George Bush decreed did not apply to the men picked up in Afghanistan, or elsewhere, in the “war on terrorism.” It was “nothing but spin,” he says, adding that the administration referred to the men held in Guantánamo as “detainees”, because to call them “prisoners” would have meant regarding them as “prisoners of war”.

As a soldier this bothered Mr Saar. If America ignored the Geneva Convention, “what kind of brutality might we be visiting upon ourselves in the future fight?” Mr Saar had also been taught that torture doesn't work and that it produces less reliable information. When he saw torture being used at Guantánamo, he struggled to “reconcile my beliefs as an American, my conscience, and my religious beliefs with my duty as a soldier.”

The struggle was lost during the interrogation of a 21-year-old Saudi. The man was believed to have taken flight training with two of the September 11th hijackers. Interrogators got nothing from him. After each gruelling session, he returned to his cell and prayed, but a female interrogator sought to break him by making him feel dirty before his God. With the prisoner shackled in an uncomfortable position, she unbuttoned her blouse and began rubbing her breasts against him. “Do you like these big American tits?” she asked. She made another sexually crude remark, then added, “How do you think Allah feels about that?”

The prisoner spat in her face. She grew cruder. She told him she was having her period, unbuttoned her military trousers and wiped what she said was menstrual blood on his face (it wasn't blood; it was from a red magic marker). He screamed but did not break. Outside the room, she began to cry. So too did Mr Saar. “I hated myself.” Tears rolled down his cheeks. He went home, and took a shower, but “there wasn't enough hot water in all of Cuba to make me feel

clean.” Not a policy to be proud of.

By Erik Saar and Viveca Novak.
Penguin Press; 256 pages; $24.95

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The State Department

Fretting about America

Jun 9th 2005
From The Economist print edition

THIS is the season of the rebellious Republican. In growing numbers, some of George Bush's allies in Congress have questioned his choice of John Bolton as ambassador to the United Nations, bucked the Senate leaders in their drive to kill the filibuster and challenged the White House on embryonic stem cell research—just to take a few recent examples.

But how far will these dissidents go? Republicans remain a strongly disciplined lot, and when they stray from the party line, they do so in curious ways. One good case is George Voinovich, a Republican senator on the Foreign Relations Committee, who could have squashed Mr Bolton's chances by voting against him. Mr Voinovich chose instead to slam Mr Bolton as "the poster child of what someone in the diplomatic corps should not be"—but then voted to send the nomination to the Senate floor (although without endorsement), which makes it likely to pass.

Now another dissident has taken aim at the Bush administration—and he too has pulled his punches. Richard Haass, a former member of the small fraternity of multilateralist-minded Republican moderates in the State Department, quit as director of policy planning in 2003. Mr Haass found refuge as president of the independent Council on Foreign Relations, where he proceeded to write "The Opportunity", a lucid wish list for American foreign-policy priorities in the current age.

The Opportunity: America's Moment to Alter History's Course
By Richard N. Haass

PublicAffairs; 242 pages; $25

Buy it at
Amazon.com
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What does Mr Haass want? A broadly defined vision of "integration" that expands security, economic opportunity, and political freedom throughout the world. Mr Haass offers a menu of policy suggestions that, not surprisingly, have had either little or no traction in the Bush administration—more willingness to accept "a little less sovereignty" when working with allies and international organisations; more engaged diplomacy toward North Korea and Iran; more consistent support for an independent Palestinian state; a concrete plan for a gradual draw-down of American troops in Iraq; and a tightening of the nuclear non-proliferation treaty so that non-nuclear countries are less able to take advantage of its loopholes.

But Mr Haass gives nothing away on the one area that readers will be most curious about. Not a word appears about State Department infighting, especially between his boss, Colin Powell, and the administration's hard-liners, notably the defence secretary, Donald Rumsfeld, and Vice-President Dick Cheney. Nor is there anything on why the White House ignored the State Department's exhaustive pre-war study that mapped out post-war reconstruction plans for Iraq, or why it brushed off the caveats of the department's Bureau of Intelligence and Research, which came closest to getting the pre-war intelligence on Iraq right. Indeed, Mr Haass mentions Mr Cheney and Mr Rumsfeld only once and twice, respectively.

Mr Haass concludes with a critical take on the Iraq war. As he sees it, neither American intelligence at the time nor Iraq's

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human-rights record, however abysmal, warranted armed intervention. Mr Haass believes that the world is indeed better off without Saddam Hussein, but, as he notes, "[T]his is not a terribly useful question. It would be akin in a business setting to looking only at revenues and ignoring expenses." Then comes his final, sort-of-blistering salvo: "What matters in business as well as in foreign policy is the balance or relationship between costs and benefits. It is this assessment that leads to the judgment that the war against Iraq was unwarranted."

Whether or not readers agree with Mr Haass, many are likely to feel that "The Opportunity" is in fact a missed chance to elucidate how the Bush administration came to its policy choices. In opting for a mild critique rather than a knock-out blow, the book may also offer some clues as to why Mr Haass and his like-minded colleagues were sidelined. Ever the diplomat, he is presumably trying to influence future policy more effectively than he influenced it in office. Wish him luck.

No kiss, no tell

By Richard N. Haass.
PublicAffairs; 242 pages; $25

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North Korea

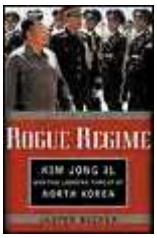
Bad guys

Jun 9th 2005
From The Economist print edition

BAD guys don't get much badder than the Kim family dynasty that has misruled North Korea for more than 50 years. Though too few know it, North Korea's human disaster, set against the size of the place, outdoes even Mao's famine-inducing great leap forward and Cambodia's killing fields as an awful illustration of how absolute power can lead to unmitigated disaster. Other recent books on North Korea have argued the toss over engagement or containment as the way to deal with its bomb-making. Jasper Becker wants to spread the word: 3m civilians killed in a civil war unleashed by Kim Il Sung in the 1950s; over 2m lost to a largely man-made famine that peaked in the mid-1990s; another 1m dead over the decades from torture and the appalling conditions of North Korea's *gulag*.

How does North Korea get away with it? Partly through *juche*, a sort of national racism that punishes contact with foreigners and dictates mostly hostility towards the outside world. Partly because China tosses back many would-be North Korean refugees, despite a legal obligation to help them. Partly because trying to deal with a regime prepared to inflict such sustained suffering on its people confronts concerned outsiders with impossible moral choices.

Rogue Regime: Kim Jong Il and the Looming Threat of North Korea
By Jasper Becker



Oxford University Press; 300 pages; $28 and £16.99

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Thus the UN's World Food Programme had to stay silent about the famine death toll in the mid-1990s if it wanted to stay on to help the survivors, even as Kim Jong Il, the North's current tormentor, was ordering in not just pizzas, but special pizza chefs, special ovens and the finest ingredients to tickle his palate. Those who would press harder for regime change must likewise calculate that ordinary people, not Mr Kim and his circle, would bear the brunt of any sanctions.

But just as power corrupts, morally so does silence. South Korea breathes not a word of the thousands of its own citizens kidnapped by North Korean agents. Instead it pays handsomely to keep open contacts with Mr Kim's regime in the vain hope that he will someday abandon what Mr Becker concludes is his lifelong ambition to unify the peninsula, by force if need be. It is an ambition that lends even greater menace to North Korea's claimed nuclear arsenal.

But slowly the silence is lifting, as more North Koreans manage to get the story out. It is one of brutal mistreatment in camps that can now be picked out by commercial satellite, of the continued use of prisoners for experiments with chemical and biological weapons (Russian archives show that deliberate infection of prisoners by plague and cholera started in the 1950s as part of a North Korean effort to make bogus charges stick against American forces in the Korean war), and of determined nuclear dabblings that are possibly more extensive than even America claims.

Individual stories are hard to verify, but Mr Becker has listened to some first-hand and by now they come from too many different people to be dismissed altogether. The world, he says, needs

new mechanisms to deal with rogues and proliferators. For North Koreans they could not come a moment too soon.

By Jasper Becker.
Oxford University Press; 300 pages; $28 and £16.99

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New film

Blue fit

Jun 9th 2005 | LOS ANGELES
From The Economist print edition

A girl movie that might just be a summer hit

Allergic Alexis

THE four girls in “The Sisterhood of the Traveling Pants” make a pact. Having found the magic every woman dreams of, a pair of jeans that fits all four of them perfectly, they vow to share them long-distance during their first summer apart.

The jeans must be magic, because the girls' shapes couldn't be more different. Petite Lena (Alexis Bledel) is allergic to boys who see her as a beautiful face. Witty Carmen (America Ferrera) is too curvy to fit into the bridesmaid's gown ordered for her by Lydia (Nancy Travis), the Southern bride-to-be of her divorced father (Bradley Whitford). Bridget (Blake Lively), a lanky star athlete, has never come to terms with her mother's suicide. And Tibby (Amber Tamblyn) is a blue-haired cynic whose summer job at a superstore named Wallman's is paying for video equipment to make her first film.

The girls pass the jeans around to bring them luck when they are separated: Lena with relatives on Santorini, where Kostas (Michael Rady) changes her mind about men; Carmen with the father she never sees, whose new family is a shock; Bridget in a Mexican soccer camp, where she sets her sights on Eric (Mike Vogel), forbidden fruit because he's a coach; and Tibby videotaping her co-workers. “A documentary,” says one interview subject. “That's like a movie, only boring?”

Delia Ephron and Elizabeth Chandler's screenplay is nicely served by the direction of a comedy veteran, Ken Kwapis. He creates a fairytale summer world where the girls grapple with real issues: love and family, death, losing your virginity for the wrong reasons, divorce, racism and having an unfashionable body type. The magic, of course, is in the girls, as they help each other achieve insights that few of their elders could manage, gently sprinkled with tears. Ann Brashares, who wrote the novel on which the film is based, has written two more books about the Sisterhood. If this one clicks, Warner Bros may find itself the proud owner of the first summer film franchise for teenage girls.

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Good management

The heart of the business

Jun 9th 2005
From The Economist print edition

LIKE Douglas McGregor, the inventor of Theory X and Y, Sumantra Ghoshal was a business academic whose reputation grew rapidly after his early death. McGregor taught at Harvard and MIT and died in 1964 at the age of 58; Ghoshal taught at INSEAD and the London Business School and died in 2004 at the age of 55. The parallel does not stop there. Both men's work was firmly based on positive views of *Homo economicus*. McGregor identified a lasting dichotomy between management styles: Theory X, an authoritarian way, which assumes that workers are natural shirkers; and Theory Y, in which self-motivating individuals work their butts off in pursuit of objectives to which they have become fully committed. He urged companies to adopt Theory Y.

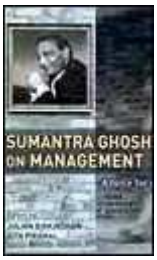
When he died, Ghoshal had been set on freeing management studies from the tight grip of market economics. He felt the dismal science failed to take account of “human intentionality”, the element that enables management theories to become self-fulfilling. “A theory that assumes that managers cannot be relied upon by shareholders can make managers less reliable,” he wrote in the first extract of this collection of his works, a hitherto unpublished piece written with Peter Moran that was to be the opening chapter of a book to be called “A Good Theory of Management”.

The collection shows the remarkable breadth of Ghoshal's interests, starting with his early studies of multinationals and his perceptive critique of the matrix structure in which managers reported along both geographical and functional lines, a dual reporting structure which, he wrote, leads to “conflict and confusion”. His focus was always on corporations and the managers who worked within them; his sympathy for the difficulty of their task honed by eight years spent working for the Indian Oil company in his home country.

He liked the concept of social capital, the idea that the value of an organisation's workforce can be more than the sum of its parts. He repeatedly argued that the corporation had to move from an industrial-age emphasis on “strategy, structure and systems” to a modern-age emphasis on “purpose, process and people”. In this light it was no longer, as the pure economists saw it, a mere consequence of market imperfections. The corporation lay not at the periphery of the market economy, but at the heart of the “organisational economy”.

Ghoshal not only had interesting ideas; he expressed them interestingly. This collection reflects his eagerness to send those ideas to a wider audience; it deserves to find the audience he sought.

Sumantra Ghoshal on Management: A Force for Good
Edited by Julian Birkinshaw and Gita Piramal



FT Prentice Hall; 378 pages; £25

Buy it at
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The Next Global Stage: Challenges and Opportunities in our Borderless World
By Kenichi Ohmae

Wharton School Publishing; 282 pages; $27.95.
FT Prentice Hall; £16.99

Buy it at
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When Ghoshal began in academia, a young Japanese consultant was also making his name as a guru of globalisation. Kenichi Ohmae's “The Borderless World” (1990) seemed a fresh take on the cross-border opportunities provided by the combination of IT, the spread of English and the downfall of alternatives to the capitalist system. In the introduction to “The Next Global Stage”, Mr Ohmae writes that “different times require a different script”, and then goes on to write pretty much the same one, proclaiming the end of the nation state and of economics as we know it, with a heavy injection of China—or, more precisely, of Liaoning province, where he has been an adviser since 2002. After reading Ghoshal his work seems rather trite.

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Orange prize for fiction

Jun 9th 2005
From The Economist print edition

The story of a woman who bears a child she loathes, only to watch him become a teenage high-school killer, has won *The Economist*'s chief fiction reviewer, Lionel Shriver, one of Britain's most prestigious literary awards, the £30,000 ($55,000) Orange prize for fiction by women. Ms Shriver's existing agent, and nearly a dozen others, turned down “We Need to Talk About Kevin” (Perennial, Serpent's Tail) before Kim Witherspoon in New York took it on and it was published in April 2003.

An unflinching examination of the darker side of parenthood, the book became a lightning rod for debate and a word-of-mouth hit on both sides of the Atlantic after another writer, Amy Hempel, and a determined group of like-minded fans began to recommend it to friends and other readers. Who says hand-selling doesn't work?

Opale/Jerry Bauer

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Economist.com PEOPLE

Obituary

Hamilton Naki

Jun 9th 2005
From The Economist print edition

Cape Argus-Trace Images

Hamilton Naki, an unrecognised surgical pioneer, died on May 29th, aged 78

ON DECEMBER 3rd, 1967, the body of a young woman was brought to Hamilton Naki for dissection. She had been knocked down by a car as she went to buy a cake on a street in Cape Town, in South Africa. Her head injuries were so severe that she had been pronounced brain-dead at the hospital, but her heart, uninjured, had gone on furiously pumping.

Mr Naki was not meant to touch this body. The young woman, Denise Darvall, was white, and he was black. The rules of the hospital, and indeed the apartheid laws of the land, forbade him to enter a white operating theatre, cut white flesh, or have dealings with white blood. For Mr Naki, however, the Groote Schuur hospital had made a secret exception. This black man, with his steady, dexterous hands and razor-sharp mind, was simply too good at the delicate, bloody work of organ transplantation. The chief transplant surgeon, the young, handsome, famously temperamental Christiaan Barnard, had asked to have him on his team. So the hospital had agreed, saying, as Mr Naki remembered, “Look, we are allowing you to do this, but you must know that you are black and that's the blood of the white. Nobody must know what you are doing.”

Nobody, indeed, knew. On that December day, in one part of the operating suite, Barnard in a blaze of publicity prepared Louis Washkansky, the world's first recipient of a transplanted human heart. Fifteen metres away, behind a glass panel, Mr Naki's skilled black hands plucked the white heart from the white corpse and, for hours, hosed every trace of blood from it, replacing it with Washkansky's. The heart, set pumping again with electrodes, was passed to the other side of the

screen, and Mr Barnard became, overnight, the most celebrated doctor in the world.

In some of the post-operation photographs Mr Naki inadvertently appeared, smiling broadly in his white coat, at Barnard's side. He was a cleaner, the hospital explained, or a gardener. Hospital records listed him that way, though his pay, a few hundred dollars a month, was actually that of a senior lab technician. It was the most they could give, officials later explained, to someone who had no diploma.

There had never been any question of diplomas. Mr Naki, born in the village of Ngcangane in the windswept Eastern Cape, had been pulled out of school at 14, when his family could no longer afford it. His life seemed likely to be cattle-herding, barefoot and in sheepskins, like many of his contemporaries. Instead, he hitch-hiked to Cape Town to find work, and managed to land a job tending lawns and rolling tennis courts at the University of Cape Town Medical School.

A black—even one as clever as he was, and as immaculately dressed, in a clean shirt, tie and Homburg hat even to work in the gardens—could not expect to get much further. But a lucky break came when, in 1954, the head of the animal research lab at the Medical School asked him for help. Robert Goetz needed a strong young man to hold down a giraffe while he dissected its neck to see why giraffes did not faint when they drank. Mr Naki coped admirably, and was taken on: at first to clean cages, then to hold and anaesthetise the animals, then to operate on them.

Stealing with his eyes

The lab was busy, with constant transplant operations on pigs and dogs to train doctors, eventually, for work on humans. Mr Naki never learned the techniques formally; as he put it, “I stole with my eyes”. But he became an expert at liver transplants, far trickier than heart transplants, and was soon teaching others. Over 40 years he instructed several thousand trainee surgeons, several of whom moved on to become heads of departments. Barnard admitted—though not until 2001, just before he died—that Mr Naki was probably technically better than he was, and certainly defter at stitching up afterwards.

Unsung, though not unappreciated, Mr Naki continued to work at the Medical School until 1991. When he retired, he drew a gardener's pension: 760 rand, or about $275, a month. He exploited his medical contacts to raise funds for a rural school and a mobile clinic in the Eastern Cape, but never thought of money for himself. As a result, he could pay for only one of his five children to stay to the end of high school. Recognition, with the National Order of Mapungubwe and an honorary degree in medicine from the University of Cape Town, came only a few years before his death, and long after South Africa's return to black rule.

He took it well. Bitterness was not in his nature, and he had had years of training to accept his life as apartheid had made it. On that December day in 1967, for example, as Barnard played host to the world's adoring press, Mr Naki, as usual, caught the bus home. Strikes, riots and road blocks often delayed it in those days. When it came, it carried him—in his carefully pressed suit, with his well-shined shoes—to his one-room shack in the township of Langa. Because he was sending most of his pay to his wife and family, left behind in Transkei, he could not afford electricity or running water. But he would always buy a daily newspaper; and there, the next day, he could read in banner headlines of what he had done, secretly, with his black hands, with a white heart.

On 14th July 2005 we published an important correction to this obituary

Overview

Jun 9th 2005
From The Economist print edition

After last week's retreat, the **euro** recovered a little, rising above $1.23 on June 8th.

Bonds continue to boom. During trading this week, yields on the ten-year German government bond fell to a record low of 3.12%.

Hiring in **America** was much weaker than expected. Non-farm businesses added just 78,000 workers to their payrolls in May, having added 274,000 the month before. Unit labour costs also increased faster than previously thought, rising by 3.3% in the first quarter compared with previous estimates of 2.2%. The unemployment rate fell to 5.1%.

In the **euro area**, the volume of retail sales shrank by 0.9% in the year to April, after growing by 1.4% in the year to March. But the NTC survey of purchasing managers in services was more encouraging. It suggested that the services sector was in its best shape since October.

In the **Netherlands**, industrial production contracted by 0.7% in the year to April. In **Germany**, it expanded by 1.8%, largely due to a rebound in construction, which grew by 18.6% over the month of April.

In **Britain**, seasonally-adjusted house prices fell by 0.6% in May, according to Halifax, a mortgage lender. The year-on-year rate of house-price inflation is now 5.7%, compared with a peak of 22.1% in the year to July 2004.

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Output, demand and jobs

Jun 9th 2005
From The Economist print edition

% change on year ago

	GDP latest		GDP qtr*	The Economist poll GDP forecasts 2005	2006	Industrial production latest		Retail sales (volume) latest		Unemployment % rate latest		year ago
Australia	+ 1.9	Q1	+ 2.8	+ 2.6	+ 3.2	– 0.4	Q4	+ 1.8	Q1	5.1	May	5.5
Austria	+ 2.1	Q4	+ 1.1	+ 2.0	+ 2.0	+ 1.9	Mar	+ 3.2	Mar	4.6	May	4.4
Belgium	+ 1.8	Q1	nil	+ 1.6	+ 2.1	– 1.5	Apr	+ 3.4	Mar	12.3	Apr†	12.4
Britain	+ 2.7	Q1	+ 2.0	+ 2.4	+ 2.1	– 1.8	Mar	+ 2.3	Apr	4.7	Mar††	4.8
Canada	+ 3.3	Q1	+ 2.3	+ 2.6	+ 2.9	+ 1.3	Mar	+ 6.3	Feb	6.8	Apr	7.2
Denmark	+ 0.8	Q1	+ 0.6	+ 2.1	+ 2.2	– 4.5	Mar	+ 8.2	Apr	5.9	Apr	6.5
France	+ 1.7	Q1	+ 0.8	+ 1.8	+ 2.0	– 0.5	Mar	+ 1.0	Apr	10.2	Apr	10.0
Germany	+ 1.1	Q1	+ 4.2	+ 1.1	+ 1.4	+ 1.8	Apr	nil	Mar	11.8	May§	10.5
Italy	– 0.2	Q1	– 1.8	+ 0.3	+ 1.3	– 2.9	Mar	+ 1.2	Mar	8.0	Dec	8.2
Japan	+ 1.2	Q1	+ 5.3	+ 1.4	+ 1.8	+ 0.6	Apr	+ 0.7	Mar	4.4	Apr	4.7
Netherlands	– 0.3	Q1	– 0.6	+ 0.8	+ 1.6	– 0.7	Apr	+ 0.6	Mar	6.6	Apr**	6.4
Spain	+ 3.3	Q1	+ 3.5	+ 2.8	+ 2.7	+ 7.1	Apr	+ 3.0	Apr	10.0	Apr	11.2
Sweden	+ 2.0	Q4	+ 1.4	+ 2.8	+ 2.8	+ 4.4	Mar	+ 4.0	Apr	5.8	Apr†	5.4
Switzerland	+ 0.8	Q1	+ 0.2	+ 1.2	+ 1.7	+ 4.7	Q4	– 0.3	Mar	3.7	May†	3.8
United States	+ 3.7	Q1	+ 3.5	+ 3.5	+ 3.2	+ 3.1	Apr	+ 5.3	Apr	5.1	May	5.6
Euro area	+ 1.3	Q1	+ 2.0	+ 1.4	+ 1.8	– 0.1	Mar	– 0.9	Apr	8.9	Apr	8.9
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Finland	+ 2.0	Q1	+ 0.5	na	na	+ 1.2	Apr	+ 2.9	Mar	10.0	Apr†	10.6
Greece	+ 3.6	Q1	na	na	na	– 4.9	Mar	+ 7.1	Mar	10.2	Dec	9.8
Iceland	+ 3.8	Q4	na	na	na	na		na		2.6	Mar†	3.5
Ireland	+ 2.8	Q4	na	na	na	– 3.4	Mar	+ 4.6	Mar	4.2	May	4.6
Luxembourg	+ 3.8	Q4	na	na	na	+ 2.4	Mar	– 3.1	Apr	4.6	Apr	4.2
New Zealand	+ 3.6	Q4	+ 2.4	na	na	+ 3.5	Q4	+ 5.8	Q1	3.9	Q1	4.2
Norway	– 0.8	Q1	+ 2.2	na	na	+ 4.0	Apr	+ 8.5	Apr	4.6	Apr**	4.3
Portugal	+ 0.6	Q4	– 1.1	na	na	+ 0.7	Apr	+ 2.0	Apr	7.5	Q1†	6.4

*% change on previous quarter at an annual rate. †Not seasonally adjusted. ††Jan-Mar; claimant count rate 2.7% in Apr.
§EU harmonised rate 9.6% in Apr. **Feb-Apr.

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Prices and wages

Jun 9th 2005
From The Economist print edition

% change on year ago

	Consumer prices latest		Consumer prices year ago	The Economist poll consumer prices forecast 2005	The Economist poll consumer prices forecast 2006	Producer prices latest		Producer prices year ago	Wages/earnings latest		Wages/earnings year ago
Australia	+ 2.4	Q1	+ 2.0	+ 2.6	+ 2.6	+ 6.0	Q1	– 1.1	+ 4.5	Q1	+ 5.0
Austria	+ 2.6	Apr	+ 1.6	+ 2.1	+ 1.6	+ 1.3	May	+ 6.1	+ 2.2	Apr	+ 2.2
Belgium	+ 2.5	May	+ 2.6	+ 2.0	+ 1.7	+ 3.3	Apr	+ 2.6	+ 2.6	Apr	+ 2.3
Britain	+ 1.9	Apr*	+ 1.2	+ 1.9	+ 1.9	+ 3.2	Apr	+ 1.8	+ 4.6	Mar†	+ 5.1
Canada	+ 2.4	Apr	+ 1.6	+ 2.1	+ 2.1	+ 1.5	Apr	+ 2.3	+ 2.5	Feb	+ 3.5
Denmark	+ 1.8	Apr	+ 0.8	+ 1.4	+ 1.7	+ 3.8	Apr	+ 1.6	+ 2.9	Q4	+ 3.5
France	+ 1.8	Apr	+ 2.1	+ 1.6	+ 1.6	+ 3.1	Apr	+ 1.3	+ 2.9	Q1	+ 2.8
Germany	+ 1.7	May	+ 2.0	+ 1.4	+ 1.0	+ 3.2	Apr	+ 2.4	+ 1.5	Mar	+ 1.5
Italy	+ 1.9	May	+ 2.3	+ 1.9	+ 1.8	+ 4.4	Apr	+ 1.7	+ 3.5	Apr	+ 2.8
Japan	nil	Apr	– 0.4	– 0.1	+ 0.3	+ 1.8	Apr	+ 0.6	+ 0.7	Mar	+ 2.2
Netherlands	+ 1.3	May	+ 1.5	+ 1.4	+ 0.6	+ 4.9	Mar	– 0.2	+ 0.7	Apr	+ 1.6
Spain	+ 3.5	Apr	+ 2.7	+ 2.9	+ 2.7	+ 5.0	Apr	+ 2.6	+ 2.6	Q4	+ 3.3
Sweden	+ 0.3	Apr	+ 0.3	+ 0.7	+ 1.5	+ 2.7	Apr	– 0.2	+ 4.2	Mar	+ 1.5
Switzerland	+ 1.0	May	+ 0.9	+ 1.2	+ 1.2	+ 1.3	Apr	+ 0.7	+ 0.9	2004	+ 1.4
United States	+ 3.5	Apr	+ 2.3	+ 2.9	+ 2.5	+ 4.8	Apr	+ 3.7	+ 2.6	May	+ 2.0
Euro area	+ 2.0	May	+ 2.5	+ 1.8	+ 1.5	+ 4.2	Apr	+ 1.4	+ 2.2	Q4	+ 2.1
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*										
Finland	+ 1.2	Apr	– 0.4	na	na	+ 3.1	Apr	+ 0.5	+ 4.1	Q1	+ 4.2
Greece	+ 3.4	Apr	+ 2.9	na	na	+ 4.7	Mar	+ 2.1	na		na
Iceland	+ 2.9	May	+ 3.2	na	na	+ 4.5	May	+ 5.0	+ 6.7	Apr	+ 4.0
Ireland	+ 2.2	Apr	+ 1.4	na	na	– 1.8	Apr	– 4.1	+ 5.1	Q4	+ 4.5
Luxembourg	+ 2.5	Apr	+ 2.1	na	na	+13.9	Mar	+ 2.5	+ 0.6	Feb	+ 4.0
New Zealand	+ 2.8	Q1	+ 1.5	na	na	+ 4.2	Q1	– 0.6	+ 2.5	Q1	+ 2.2
Norway	+ 1.1	Apr	+ 0.4	na	na	+17.5	Apr	+12.3	+ 3.7	Q1	+ 3.5
Portugal	+ 2.1	Apr	+ 2.3	na	na	+ 4.4	Apr	+ 1.1	– 1.6	Apr	– 1.4

*RPI inflation rate 3.2% in Apr. †Jan-Mar.

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Economic forecasts

Jun 9th 2005
From The Economist print edition

The Economist poll of forecasters, June averages (previous month's, if changed)

	Real GDP, % change Low/high range		Real GDP, % change average		Consumer prices % increase		Current account % of GDP	
	2005	2006	2005	2006	2005	2006	2005	2006
Australia	1.9/3.4	2.7/3.7	2.6 (2.5)	3.2	2.6	2.6 (2.7)	-5.7(-5.6)	-5.1 (-5.0)
Austria	1.6/2.3	1.4/2.3	2.0	2.0	2.1 (2.0)	1.6	-0.5(-0.6)	-0.6 (-0.8)
Belgium	1.1/2.3	1.7/2.6	1.6 (2.0)	2.1 (2.2)	2.0 (1.9)	1.7	3.3 (3.4)	3.3
Britain	2.2/2.8	1.7/2.5	2.4	2.1 (2.2)	1.9 (1.8)	1.9	-2.5(-2.6)	-2.5 (-2.6)
Canada	2.3/3.0	2.4/3.8	2.6 (2.7)	2.9 (3.0)	2.1 (2.0)	2.1	1.7 (1.8)	1.5
Denmark	1.5/2.6	1.6/2.5	2.1	2.2	1.4	1.7	2.1 (2.2)	2.1
France	1.5/2.1	1.7/2.4	1.8 (1.9)	2.0	1.6	1.6	-0.3	-0.1
Germany	0.7/1.5	1.0/1.8	1.1 (0.9)	1.4 (1.5)	1.4	1.0 (1.1)	3.4 (3.1)	3.2 (2.9)
Italy	-0.6/1.5	0.6/2.2	0.3 (0.8)	1.3 (1.4)	1.9	1.8 (1.9)	-1.2(-1.0)	-1.2 (-1.1)
Japan	0.6/2.0	1.0/2.9	1.4 (1.1)	1.8	-0.1 (nil)	0.3	3.6	3.6
Netherlands	0.1/1.2	1.0/2.2	0.8 (1.1)	1.6 (1.7)	1.4	0.6 (1.0)	3.4 (3.5)	3.4 (3.5)
Spain	2.3/3.3	2.3/3.2	2.8 (2.7)	2.7 (2.6)	2.9	2.7 (2.6)	-4.9	-4.9 (-5.0)
Sweden	2.4/3.3	2.5/3.2	2.8	2.8	0.7 (0.6)	1.5	6.9 (7.0)	6.3 (6.4)
Switzerland	0.8/1.6	1.0/2.0	1.2	1.7	1.2	1.2	11.1(11.9)	10.6 (11.4)
United States	3.2/3.8	2.5/4.0	3.5	3.2	2.9 (2.8)	2.5	-6.3(-6.2)	-6.2 (-6.0)
Euro area	1.1/1.6	1.4/2.2	1.4	1.8	1.8	1.5 (1.6)	0.5	0.5

Sources: ABN Amro, Deutsche Bank, Economist Intelligence Unit, Goldman Sachs, HSBC Securities, KBC Bank, J.P. Morgan Chase, Morgan Stanley, Decision Economics, BNP Paribas, Royal Bank of Canada, Citigroup, Scotiabank, UBS

Every month, *The Economist* surveys a group of forecasters and calculates the average of their predictions for economic growth, inflation and current-account balances for 15 countries and for the euro area. The table also shows the highest and lowest projections for growth. The previous month's figures, where they are different, are shown in brackets. The panel has lowered this year's growth forecast for Italy to 0.3%, down from 0.8% last month. It has become more optimistic about Japan's prospects in 2005, predicting growth of 1.4% compared with 1.1% in May. It now expects Britain to grow by 2.1% next year. The panel has become gloomier about America's current-account deficit, which is forecast to reach 6.3% of GDP in 2005 and 6.2% in 2006. It is predicting American inflation of 2.9% this year, slightly higher than its forecast in May.

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Money and interest rates

Jun 9th 2005
From The Economist print edition

	Money supply* % change on year ago			Interest rates % a year (Jun 8th 2005)					
				3-mth money market		2-year	10-year gov't bonds		corporate
	narrow	broad		latest	year ago	gov't bonds	latest	year ago	bonds
Australia	+ 4.0	+ 9.0	Apr	5.67	5.49	5.07	5.07	5.98	6.10
Britain	+ 4.8	+10.4	Apr	4.81	4.72	4.19	4.21	5.23	5.21
Canada	+13.5	+10.8	Apr	2.43	2.03	2.81	3.88	5.24	5.24
Denmark	+17.7	+11.3	Apr	2.15	2.25	2.02	3.06	4.50	4.90
Japan	+ 4.0	+ 1.5	May	0.02	0.02	0.08	1.21	1.72	1.31
Sweden	+ 2.2	+ 3.7	Apr	1.71	1.98	1.95	3.02	4.66	2.72
Switzerland	- 7.1	+ 2.1	Apr	0.75	0.34	0.91	1.89	2.92	1.89
United States	+ 2.0	+ 4.5	Apr	3.25	1.25	3.60	3.94	4.81	4.90
Euro area†	+ 9.3	+ 6.7	Apr	2.11	2.10	2.01	3.09	4.33	3.36

*Narrow: M1 except Britain and Sweden M0, broad: M2 or M3 except Britain M4. † Germany for bonds. Benchmarks: US 30-year 4.22%, Japan No. 270 1.23%. Central bank rates: US fed funds 3.00%, ECB refinancing 2.00%, BOJ overnight call 0.001%, BOE repo 4.75%. Sources: Bank of Canada, Commerzbank, Danske Bank, J.P. Morgan Chase, Stockholmsbörsen, UBS, Global Insight, Westpac, Thomson Datastream. Rates cannot be construed as banks' offers.

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The Economist commodity price index

Jun 9th 2005
From The Economist print edition

2000=100

	May 31st	Jun 7th*	% change on one month	% change on one year
Dollar index				
All items	133.6	135.4	+ 2.1	+ 1.9
Food	130.7	130.4	+ 2.2	– 3.0
Industrials				
All	137.4	141.8	+ 2.0	+ 8.5
Nfa†	131.1	130.1	+ 1.5	– 6.5
Metals	140.9	148.2	+ 2.2	+17.6
Sterling index				
All items	111.2	112.2	+ 5.1	+ 2.2
Euro index				
All items	100.1	102.0	+ 7.2	+ 1.9
Yen index				
All items	133.6	134.0	+ 3.3	– 0.9
Gold				
$ per oz	416.05	425.25	– 0.6	+ 8.4
West Texas Intermediate				
$ per barrel	51.65	53.76	+ 3.6	+44.7

* Provisional. † Non-food agriculturals.

Our commodity-price index was rebased in February 2005.

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Stockmarkets

Jun 9th 2005
From The Economist print edition

Market indices

	Jun 8th	2005 high	2005 low	% change on one week	% change on record high	% change on Dec 31st 2004 in local currency	% change on Dec 31st 2004 in $ terms
Australia (All Ordinaries)	4,173.3	4,255.8	3,905.5	+ 1.7	- 1.9	+ 3.0	+ 1.1
Austria (ATX)	2,847.8	2,847.8	2,415.0	+ 0.6	nil	+17.1	+ 6.2
Belgium (Bel 20)	3,060.3	3,197.3	2,958.8	- 0.4	-16.9	+ 4.4	- 5.3
Britain (FTSE 100)	5,003.7	5,060.8	4,783.6	- 0.1	-27.8	+ 3.9	- 0.5
Canada (Toronto Composite)	9,707.9	9,927.2	9,006.2	+ 0.6	-14.8	+ 5.0	+ 1.0
Denmark (KBX)	298.8	298.8	257.8	+ 0.7	- 1.0	+15.9	+ 5.0
France (SBF 250)	2,893.4	2,896.9	2,633.6	+ 0.1	-34.1	+ 9.8	- 0.4
(CAC 40)	4,171.4	4,183.7	3,816.1	- 0.2	-39.7	+ 9.2	- 1.0
Germany (DAX)*	4,557.3	4,566.0	4,178.1	+ 0.7	-43.5	+ 7.1	- 2.9
Italy (S&P/MIB)	32,192.0	32,856.0	30,645.0	+ 0.3	-35.8	+ 4.2	- 5.5
Japan (Nikkei 225)	11,281.0	11,966.7	10,825.4	- 0.4	-71.0	- 1.8	- 5.8
(Topix)	1,148.5	1,203.3	1,109.2	- 0.1	-60.2	- 0.1	- 4.1
Netherlands (AEX)	372.8	379.8	347.0	+ 0.3	-46.9	+ 7.1	- 2.9
Spain (Madrid SE)	1,029.0	1,033.6	950.9	- 0.4	-10.2	+ 7.3	- 2.7
Sweden (Affarsvarlden Gen)	239.5	240.4	218.9	+ 0.4	-40.2	+ 8.3	- 3.4
Switzerland (Swiss Market)	6,236.7	6,237.4	5,669.6	+ 0.4	-25.9	+ 9.5	+ 0.1
United States (DJIA)	10,476.9	10,940.6	10,012.4	- 0.7	-10.6	- 2.8	- 2.8
(S&P 500)	1,194.7	1,225.3	1,137.5	- 0.6	-21.8	- 1.4	- 1.4
(NASDAQ Comp)	2,060.2	2,152.2	1,904.2	- 1.3	-59.2	- 5.3	- 5.3
Europe (FTSEurofirst 300)†	1,123.6	1,126.9	1,038.6	+ 0.3	-34.1	+ 7.9	- 2.2
Euro area (FTSE Euro 100)†	951.0	953.3	894.4	nil	-38.7	+ 5.6	- 4.3
World (MSCI)‡	1,151.0	1,193.0	1,115.0	+ 0.2	-20.6	- 1.6	- 1.6
World bond market (Citigroup)††	651.0	662.3	642.6	+ 1.0	- 1.7	- 2.3	- 2.3

*Total return index. †In euro terms. ‡Morgan Stanley Capital International index includes individual markets listed above plus eight others, in $ terms. ††Citigroup World Government Bond Index, total return, in $ terms.

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Trade, exchange rates and budgets

Jun 9th 2005
From The Economist print edition

	Trade balance*, $bn latest 12 months		Current-account balance $bn latest 12 mths		The Economist poll % of GDP, forecast 2005	2006	Exchange rate trade-weighted† 2000=100 Jun 8th	year ago	Currency units per $ Jun 8th	year ago	per £	per euro	per ¥100	Budget balance % of GDP 2005‡
Australia	− 18.1	Apr	− 42.4	Q1	− 5.7	− 5.1	116.7	107.6	1.30	1.45	2.39	1.60	1.22	+ 0.9
Austria	nil	Mar	− 0.4	Mar	− 0.5	− 0.6	104.8§	103.6	0.81	0.83	1.49	–	0.76	− 2.0
Belgium	+ 16.7	Mar	+ 12.0	Dec	+ 3.3	+ 3.3	105.5§	103.9	0.81	0.83	1.49	–	0.76	− 0.5
Britain	−108.9	Mar	− 49.0	Q4	− 2.5	− 2.5	101.1	102.5	0.54	0.55	–	0.67	0.51	− 2.9
Canada	+ 49.4	Mar	+ 20.2	Q1	+ 1.7	+ 1.5	115.6	106.7	1.25	1.35	2.29	1.54	1.17	+ 1.2
Denmark	+ 9.2	Apr	+ 8.6	Apr	+ 2.1	+ 2.1	105.6	105.4	6.04	6.15	11.1	7.44	5.65	+ 1.8
France	− 18.9	Mar	− 10.9	Mar	− 0.3	− 0.1	108.3§	106.4	0.81	0.83	1.49	–	0.76	− 3.0
Germany	+198.5	Apr	+108.0	Apr	+ 3.4	+ 3.2	106.2§	104.0	0.81	0.83	1.49	–	0.76	− 3.5
Italy	− 4.6	Mar	− 18.8	Mar	− 1.2	− 1.2	77.5§	76.2	0.81	0.83	1.49	–	0.76	− 4.4
Japan	+125.3	Apr	+170.9	Apr	+ 3.6	+ 3.6	89.0	88.0	107	109	196	132	–	− 6.1
Netherlands	+ 38.6	Mar	+ 33.9	Q1	+ 3.4	+ 3.4	105.0§	103.2	0.81	0.83	1.49	–	0.76	− 2.2
Spain	− 83.1	Mar	− 55.5	Feb	− 4.9	− 4.9	77.8§	76.9	0.81	0.83	1.49	–	0.76	+ 0.5
Sweden	+ 23.0	Apr	+ 29.7	Q1	+ 6.9	+ 6.3	97.5	98.0	7.45	7.54	13.7	9.18	6.97	+ 0.8
Switzerland	+ 7.0	Apr	+ 40.8	Q4	+11.1	+10.6	107.4	108.5	1.24	1.25	2.29	1.53	1.17	− 1.0
United States	−700.9	Mar	−665.9	Q4	− 6.3	− 6.2	84.6	87.7	–	–	1.84	1.23	0.94	− 4.1
Euro area	+ 74.9	Mar	+ 42.1	Mar	+ 0.5	+ 0.5	114.9	113.9	0.81	0.83	1.49	–	0.76	− 2.8
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*													
Finland	+ 13.1	Mar	+ 7.9	Mar	na	na	82.4§	81.0	0.81	0.83	1.49	–	0.76	+ 1.3
Greece	− 32.6	Feb	− 10.7	Mar	na	na	60.4§	59.6	0.81	0.83	1.49	–	0.76	− 3.8
Iceland	− 0.7	Apr	− 1.0	Q4	na	na	105.7**	98.7	64.2	71.9	118	79.1	60.1	+ 1.1
Ireland	+ 40.6	Mar	− 0.8	Q4	na	na	95.9§	93.2	0.81	0.83	1.49	–	0.76	− 0.7
Luxembourg	− 4.6	Mar	+ 2.9	Q4	na	na	105.5§	103.9	0.81	0.83	1.49	–	0.76	− 0.8
New Zealand	− 3.0	Apr	− 6.2	Q4	na	na	137.8	123.0	1.40	1.61	2.57	1.73	1.31	+ 3.2
Norway	+ 40.9	Apr	+ 34.4	Dec	na	na	109.7	105.8	6.42	6.76	11.8	7.92	6.01	+ 14.4
Portugal	− 19.6	Mar	− 13.9	Mar	na	na	94.3**	94.0	0.81	0.83	1.49	–	0.76	− 5.3

*Merchandise. Australia, Britain, France, Canada, Japan and United States imports fob, exports fob. All others cif/fob. †Bank of England except §IMF, April average. ‡OECD forecast. **IMF, February average.

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Derivatives

Jun 9th 2005
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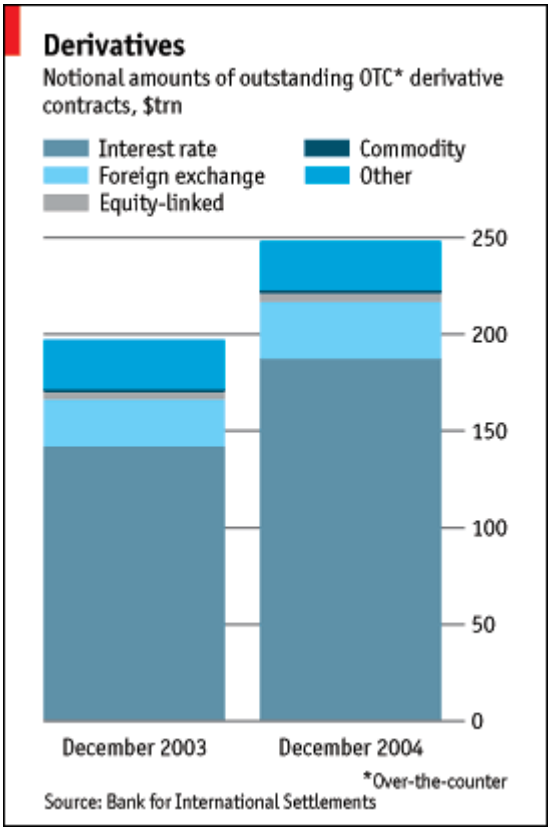

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Overview

Jun 9th 2005
From The Economist print edition

Having suffered both a drought and a deluge, **Thailand's** economy contracted in the first quarter for the first time in four years. GDP fell by 0.6% in the quarter, but the economy was still 3.3% bigger than the year before.

Taiwan's exports rose by only 4% in the year to May, after growing by 11.2% in the year to April. The government blamed weak global demand for technology products. In **Malaysia**, industrial production grew by 6.8% in the year to April.

Inflation is regaining strength in **Turkey**. Consumer-price inflation rose to 8.7% in May, after slowing earlier this year.

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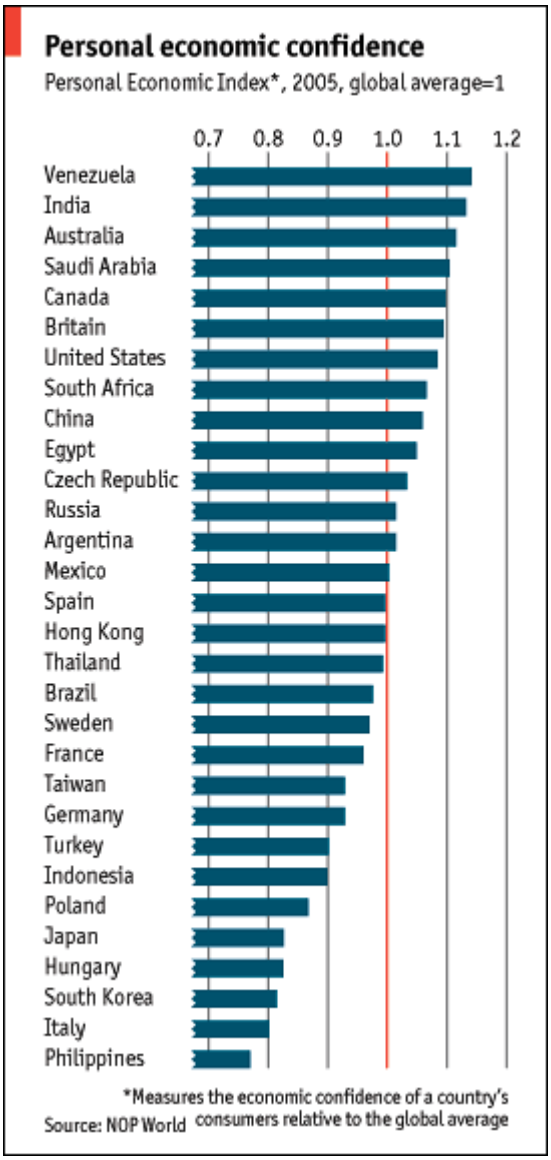
Personal economic confidence

Jun 9th 2005
From The Economist print edition

Venezuelans are more confident than most others that their personal fortunes will improve, according to NOP World, a market-research organisation. It asked consumers in 30 countries whether they thought their economic situation would get better over the coming year, and whether now was a good time to spend money. The percentage of respondents answering yes determines a country's rank in the index. A score greater than one shows that the proportion of confident consumers in that country exceeds the world average.



Economy

Jun 9th 2005
From The Economist print edition

	% change on year ago						Latest 12 months, $bn				Foreign reserves* $bn, latest	
	GDP		Industrial production		Consumer prices		Trade balance		Current account			
China	+ 9.4	Q1	+16.0	Apr	+ 1.8	Apr	+64.1	Apr	+68.7	2004	659.1	Mar
Hong Kong	+ 6.0	Q1	+ 5.0	Q4	+ 0.5	Apr	−10.2	Apr	+16.4	Q4	122.4	May
India	+ 6.2	Q4	+ 7.2	Mar	+ 5.0	Apr	−28.9	Apr	− 3.9	Q4	134.0	May
Indonesia	+ 6.4	Q1	+10.1	Mar	+ 7.4	May	+27.5	Apr	+ 2.9	Q4	35.1	Apr
Malaysia	+ 5.7	Q1	+ 6.8	Apr	+ 2.7	Apr	+23.3	Apr	+15.1	Q4	73.0	Apr
Philippines	+ 4.6	Q1	+ 2.8	Mar	+ 8.5	May	nil	Mar	+ 2.1	Dec	14.8	May
Singapore	+ 2.5	Q1	+ 4.8	Apr	+ 0.4	Apr	+15.9	Apr	+29.2	Q1	116.0	May
South Korea	+ 2.7	Q1	+ 3.8	Apr	+ 3.1	May	+27.6	May	+25.4	Apr	206.3	Apr
Taiwan	+ 2.5	Q1	+ 0.6	Apr	+ 2.3	May	+ 2.6	May	+16.9	Q1	253.2	May
Thailand	+ 3.3	Q1	+ 7.1	Mar	+ 3.7	May	− 3.2	Apr	+ 2.0	Apr	48.1	Apr
Argentina	+ 8.4	Q4	+ 7.4	Apr	+ 8.6	May	+11.6	Apr	+ 3.0	Q4	20.1	Apr
Brazil	+ 2.9	Q1	+ 6.3	Apr	+ 8.1	Apr	+38.1	May	+14.3	Apr	61.1	Apr
Chile	+ 5.7	Q1	+10.1	Apr	+ 2.7	May	+ 8.6	May	+ 1.1	Q1	17.3	May
Colombia	+ 4.3	Q4	nil	Feb	+ 5.0	May	+ 0.8	Jan	− 1.1	Q4	13.1	Apr
Mexico	+ 2.4	Q1	− 4.7	Mar	+ 4.6	Apr	− 9.8	Apr	− 8.7	Q1	62.8	Apr
Peru	+ 4.0	Mar	+ 7.1	Apr	+ 1.8	May	+ 3.2	Mar	+ 0.4	Q1	12.8	Apr
Venezuela	+ 7.9	Q1	+ 0.1	Mar	+17.4	May	+22.6	Q1	+14.9	Q1	19.9	Mar
Egypt	+ 4.7	Q4	+ 3.3	2004†	+ 5.6	Mar	− 9.0	Q4	+ 4.3	Q4	16.8	Apr
Israel	+ 3.9	Q1	+ 3.3	Mar	+ 0.3	Apr	− 7.0	Apr	+ 0.5	Q4	26.5	May
South Africa	+ 4.2	Q1	+ 1.2	Mar	+ 3.4	Apr	− 2.1	Apr	− 7.0	Q4	15.5	May
Czech Republic	+ 4.4	Q1	+ 5.7	Apr	+ 1.3	May	+ 0.5	Apr	− 4.4	Q1	27.1	May
Hungary	+ 2.9	Q1	+ 8.8	Apr	+ 3.9	Apr	− 2.9	Q4	− 8.8	Q4	17.3	Apr
Poland	+ 2.1	Q1	− 1.0	Apr	+ 3.0	Apr	− 4.9	Mar	− 2.8	Mar	39.3	Apr
Russia	+ 4.9	Q1	+ 5.0	Apr	+13.6	May	+100.9	Apr	+69.7	Q1	143.6	May
Turkey	+ 6.3	Q4	+ 5.1	Apr	+ 8.7	May	−36.3	Apr	−17.2	Apr	37.3	Apr
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Estonia	+ 7.0	Q1	+11.3	Apr	+ 2.8	May	− 1.8	Mar	− 1.4	Q4	1.7	Apr
Latvia	+ 8.6	Q4	+ 0.8	Mar	+ 6.3	May	− 2.8	Mar	− 1.7	Mar	2.0	Apr
Lithuania	+ 5.5	Q1	na		+ 2.0	May	− 2.9	Mar	− 1.6	Q4	3.6	Apr
Slovakia	+ 5.1	Q1	+ 5.1	Apr	+ 2.7	Apr	− 1.7	Mar	− 1.8	Mar	17.6	Apr
Slovenia	+ 4.3	Q4	− 3.8	Mar	+ 2.2	May	− 1.4	Apr	− 0.3	Mar	8.4	Mar
Pakistan	+ 6.4	2004†	+28.3	Nov	+11.1	Apr	− 6.2	Apr	− 1.5	Q1	10.7	Apr
Saudi Arabia	+ 5.2	2004	na		+ 0.6	Mar	+84.9	2004	+51.5	2004	22.9	Apr

*Excluding gold, except Singapore; IMF definition. †Year ending June.

Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Economist Intelligence Unit; Reuters; J.P. Morgan Chase; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; FIEL; EFG-Hermes; Bank Leumi Le-Israel; Standard Bank Group; Akbank; Deutsche Bank

Financial markets

Jun 9th 2005
From The Economist print edition

	Currency units per $ Jun 8th	Currency units per $ year ago	Currency units per £ Jun 8th	Interest rates short-term % a year	Stockmarkets Jun 8th	% change on one week	% change on Dec 31st 2004 in local currency	% change on Dec 31st 2004 in $ terms
China	8.28	8.28	15.2	2.50	1,171.0	+7.4	– 12.0	– 12.0
Hong Kong	7.78	7.80	14.3	3.19	13,898.6	+0.2	– 2.3	– 2.4
India	43.5	44.9	79.9	5.15	6,858.2	+1.9	+ 3.9	+ 3.9
Indonesia	9,583	9,285	17,621	8.23	1,095.5	+1.2	+ 9.5	+ 6.1
Malaysia	3.80	3.80	6.99	2.85	879.4	+2.0	– 3.1	– 3.1
Philippines	54.7	55.7	100.6	6.31	1,953.3	–0.6	+ 7.2	+ 9.9
Singapore	1.66	1.71	3.05	2.13	2,198.3	+1.0	+ 6.4	+ 4.7
South Korea	1,006	1,155	1,849	3.50	976.2	+0.7	+ 9.0	+ 12.2
Taiwan	31.3	33.3	57.5	1.40	6,161.7	+3.2	+ 0.4	+ 1.7
Thailand	40.5	40.6	74.6	2.70	684.1	+2.5	+ 2.4	– 1.9
Argentina	2.89	2.96	5.32	5.69	1,489.3	–1.8	+ 8.3	+ 11.3
Brazil	2.44	3.11	4.49	19.75	24,701.5	–4.8	– 5.7	+ 2.5
Chile	590	644	1,084	4.08	9,315.0	+0.7	+ 3.9	– 2.0
Colombia	2,348	2,716	4,318	7.12	4,916.6	+2.2	+ 13.1	+ 13.3
Mexico	10.9	11.4	20.0	9.64	13,102.7	–0.3	+ 1.4	+ 4.1
Peru	3.25	3.48	5.98	2.97	4,030.6	+1.8	+ 8.6	+ 9.5
Venezuela	2,614§	2,853§	4,808	12.59	22,000.1	–1.3	– 26.5	– 27.6
Egypt	5.80	6.20	10.66	9.89	37,020.4	+0.7	+ 50.6	+ 57.7
Israel	4.41	4.52	8.10	3.61	706.3	+1.0	+ 9.7	+ 7.5
South Africa	6.68	6.61	12.3	7.05	14,000.4	+1.0	+ 10.6	– 6.7
Czech Republic	24.4	25.9	44.9	1.76	1,176.9	+1.6	+ 14.0	+ 4.4
Hungary	203	209	373	7.10	17,759.9	+3.6	+ 20.5	+ 7.3
Poland	3.29	3.81	6.05	5.28	27,425.4	+3.5	+ 3.0	– 6.3
Russia	28.4	29.0	52.1	13.00	671.9‡	+0.7	+ 11.9	+ 9.4
Turkey	1.36	1.50	2.50	16.33	25,779.8	+2.2	+ 3.2	+ 2.4
EM (MSCI)*	1.00	1.00	1.84	na	555.6	+1.6	+ 2.5	+ 2.5
EMBI+†	1.00	1.00	1.84	na	342.2	–0.3	+ 3.8	+ 3.8

*Emerging Mkts. †J.P. Morgan Chase's Emerging Mkts Bond Index Plus. ‡In $ terms. §Floating exchange rate.
Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Economist Intelligence Unit; Reuters; J.P. Morgan Chase; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; FIEL; EFG-Hermes; Bank Leumi Le-Israel; Standard Bank Group; Akbank; Deutsche Bank

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